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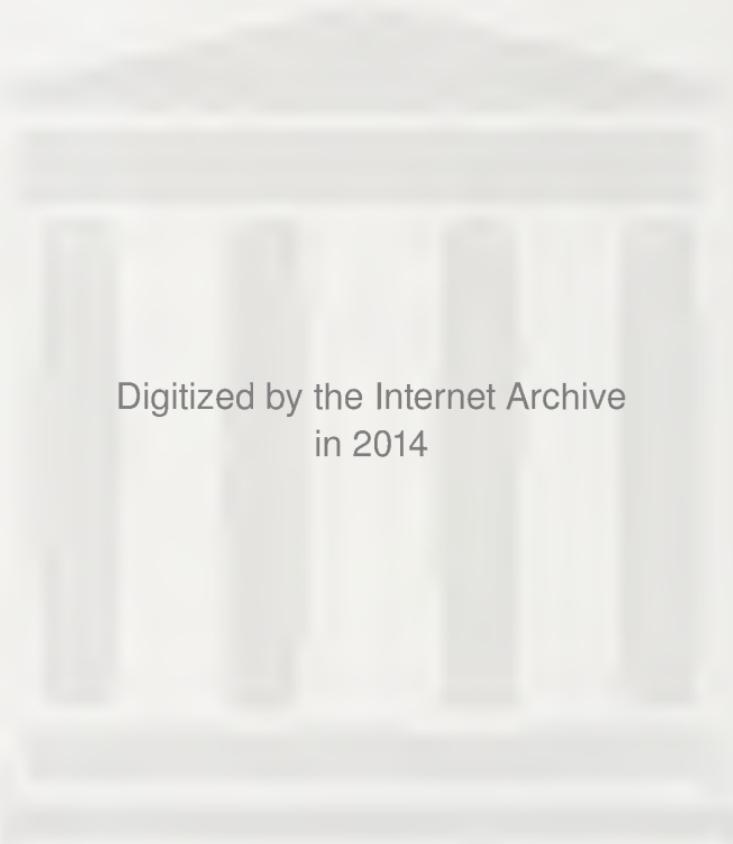
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"Quantam ego quidem video motus morbos fere omnes a motibus in systemate nervorum ita pendent ut morbi fere omnes quodammodo Nervosi dici queant."—CULLEN'S NOSOLOGY BOOK II, P. 181—
EDINBURG, ED. 1780.

THE
Alienist and Neurologist
A JOURNAL
—OF—
Scientific, Clinical and Forensic
NEUROLOGY AND PSYCHOLOGY,
PSYCHIATRY AND NEURIATRY.

*Intended especially to supply the wants of the
General Practitioner of Medicine.*

VOLUME XXIII.

**CHARLES H. HUGHES, M. D., Editor.
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INDEX TO VOLUME XXIII.

ORIGINAL CONTRIBUTIONS.

A Case of Peripheral Abducens Palsy.....	445
A Neuro-Psychologist's Plea for Byron.....	349
A Question of Figures.....	183
A Question of Figures.....	279
Clinical Observations on a New Hypnotic	27
Consciousness and the Neural Structure—A Physio-Psychical Review....	58
Dipsomania Ending in Paranoia	325
Extra-Neural or Adneural Nervous Disease.....	247
Extra-Neural or Adneural Nervous Disease.....	266
Gall's Special Organology	138
Juvenile Female Delinquents	16
Juvenile Female Delinquents	163
Kleptomania and Collectivism	449
Leon F. Czolgosz	53

Manual Stigmata of Degeneration	9
Medical Aspects of the Czolgosz Case....	40
Outlines of Psychiatry in Clinical Lectures	127
Outlines of Psychiatry in Clinical Lectures	290
Outlines of Psychiatry in Clinical Lectures	399
Pseudospastic Paresis.....	305
Puberty and Genius	176
Puberty and Genius	257
Sexual Inversion Among Primitive Races	11
Science and "Christian Science"	63
The Acquirement of Nervous Health.....	1
The Prognosis of Mental Diseases	423
The Rational Treatment of Locomotor Ataxia	335

SELECTIONS.

CLINICAL NEUROLOGY—

A Case of Cervical and Bulbar Tabes With Necropsy	356
A Case of Sudden Blindness Subsequent to Cauterization of the Nose	197
A Case of Temperature Crisis in Tabes Dorsalis	353
A New Cure for Neuralgia	464
Arachnitis and Spinal Hyperalgesia	352
Arterial Hypertonus	84
Auditory Nerve Deafness	357
Babinski's Sign	356
Chappa.....	355
Chorea Insaniens	462

Chronic Hemianesthesia	466
Cretinism	81
Cyto-Diagnosis	81
Diagnosis of the Backward Child.....	86
Floating Kidney and Neurosis	467
Glycosuria in Life Insurance.....	195
Gross Lesions of the Basal Ganglia	199
Hysteric Tympanites	462
Intestinal Toxhaemia and Paresis	199
Instrumental Amusia in Beginning Progressive Paralysis.....	86
Intermittent Bladder and Bowel Paralysis From Malaria	85

Maine's Jumping Frenchmen	357
Masked Epilepsy.....	198
Nervous and Mental Diseases.....	467
Nervous Jaundice.....	354
Nervous Sialorrhoea.....	462
Peculiar Nervous and Urinary Manifestations Following Grip in the Aged.....	87
Philadelphia Neurological Society.....	465
Pressure Narcosis	352
Psychical Troubles in Malaria.....	87
Quinquaïd's Sign of Alcoholism.....	197
Rainbow Vision	195
The Neurotic Indications of Pre-Senility	196
The Wesphal-Piltz Pupil Reaction.....	464
Treatment and Prognosis in Neuritis	196
Two Cases of Addison's Disease With a Special Consideration of the Blood	358
 CLINICAL PSYCHIATRY—	
A Deopathic Christopathic Paranoic Prayer.....	211
A Summary of Work.....	366
An Anthropoid Degenerate	89
Colitis or Asylum Dysentery.....	89
Glycosuria in Mental Diseases.....	88
Hallucinations and Visceral Disease	366
Indican Acetone and Diacetic Acid in the Psychoses.....	365
Melancholic Blood and Embryo.....	89
Paretic Dementia in the Last Two Decades.....	90
Precocious Dementia.....	209
Sexual Precocity.....	210
 NEURG-SURGERY —	
Extrication of the Gasserian Ganglion..	90
 NEURO-PATHOLOGY—	
Blood Parasite in Epilepsy	362
Pons Tumor With Degeneration in the Posterior Columns of the Cord.....	361
The Pathogenesis of Spinal Curvature In Syringomyelia.....	361
Uric-Acid Fallacies	90
 NEUROTHERAPY—	
A Notable Improvement in the Therapy of Typhoid Fever.....	457
Agurin as a Diuretic.....	362
 Index.	
Antikamnia in Sciatic Pain.....	200
Ecthol	364
Epidural Injections.....	461
Eucalyptus for Diabetes.....	365
Hedonal in Insomnia.....	364
In Gastralgia and Its Treatment.....	362
Internal Medicine.....	203
Massage in Hemiplegia	200
Music with Anesthetic Procedure.....	460
Subarachnoid Cocainization.....	200
Suprarenal Extract in Psychiatry.....	91
The Personal Elements of Error in Therapeutics.....	201
The Pressor Substance of the Pituitary Body	460
The Treatment of Motor Aphasia After Cerebral Disturbances.....	92
The Treatment of Neuralgia With Castor Oil.....	363
The Use of Methylene Blue as a Sedative.....	363
 NEURO-PHYSIOLOGY—	
Absence of Superior Longitudinal Fissures.....	207
Cerebral Heat Centers	204
Mechanical Influence of the Respiration and Circulation Upon the Activity of the Body Organs	360
Muscular Action of Arteries.....	206
Recent Experimental Neural Studies.....	360
The Nervous System and the Circulation in the Defense of the Organism	359
 NEURO-DIAGNOSIS—	
Granular Degeneration of the Erythrocyte.....	457
Taste and the Fifth Nerve	456
The Identification of Criminals Through the Fundus of the Eye.....	208
 THERAPEUTICS—	
Climatology of Neurasthenia	208
 FORENSIC PSYCHIATRY—	
Propositions Respecting Insanity and Crime.....	369
 MEDICO-LEGAL NEUROLOGY—	
A Contribution to the Study of Suicide....	468

EDITORIALS.

A Curious Spanish "Ad."	374
A Cursory Note on San Francisco Hospitals.....	97
A Day With Dr Marcy.....	485
A Facetious City Paper Smiles.....	377
A Facetious Newspaper Neurologist.....	491
A Judicial Blunder.....	214
American Medico-Psychological Association.....	101
American Medico-Psychological Association	102
Another Tofania.....	373
An Overcrowded Profession.....	383
A Singular Legal View.....	214
A Slaughtered Innocent and Its Psychiatric Moral.....	379
A Temple of Hygeia for the World's Fair.....	372
A Vaccinia Fact to Note and Remember	106
Be Sure of Your Horse and of Your Horseman.....	106
Change of Publication Date.....	382
Chondrodystrophia Foetalis.....	220
Christian Scientists	502
Climatology and Climatotherapy	100
Constipation and Civilization	474
Coprolalia.....	372
Correspondence.....	386
Culbertson of the Lancet-Clinic Hits Pedagogy.....	384
Czolgosz Again.....	478
Czolgosz Was Sane.....	216
Deaths and Obituaries	503
Delayed Manhood and Female Impersonation by Males.....	489
Demonology or Epilepsy	479
Denouncers of Medical Fees, Take Notice	494
Dr. H. B. Carriel Was Elected Central Insane Illinois Hospital Superintendent.....	376
Dr. J. T. Eskridge.....	217
Dr. J. T. Eskridge's Death.....	382
Dr. Loeb's Discovery and His Theory of Nerve Impulses	224
Dr. Lorenz Cures Eight for Charity.....	485
Dr. Oppenheim.....	378
Dr. Paul F. Munde	229
Dr. James Rodman.....	223
Dr. Seldon H. Talcott	502
Dr. Silas McDonald.....	105
Enjoyed Los Angeles Courtesies.....	93
E. C. Spitzka.....	217
Filipino Medical Folklore	495
Four Hundred Dollar Prize.....	107
Hallucinations: Their Pathogenesis, Clinical Import, and Medico-Legal Value.....	93
Health Census.....	500
Hedonal	102
Heredity vs. Environment	101
His Majesty the Monarch of Great Britain and Emperor of India	385
Homicide and Suicide in 1901.....	221
How a St. Louis Doctor Caught on in New York.....	496
Hypotone	491
Hydriatic Measures for Neurasthenics..	96
If Medical Men Paid More Attention to Politics.....	382
Importing Disease	481
In Memoriam: Dr. John Curwen.....	104
Inspect the Milk	377
Is the Louisiana Purchase Exposition to be only a Commercial Exhibition..	481
Jane Toppan	483
King Alphonso of Spain	502
Laughing Epidemics	492
Marriages Between Women	497
Mary MacLane is Neuropathically Morbid.....	375
Medical Association Officers	374
Medicine in the East	497
Mental Training of the Child After Birth	475
Musolino vs. Lombroso	501
Necrophilism.....	215
New Honorary Members of the Medico-Legal Society	218
Neurasthenia and Insincerity	376
New Year Greeting.—The Alienist and Neurologist.....	107
Obituary.—Death of Dr. Grissom	386
One Cause of It	499

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Political Paranoiacs.....	103
President Eliot.....	500
President Eliot's Christian Psychology.....	500
Removal Notice.....	378
Rudolph Virchow's Photo.....	102
Seldon H. Talcott Dead.....	383
Somnolentia, Somnambulism and Crime.....	490
Splanchnoptosis and Its Treatment.....	378
The American Association of Urologists.....	229
The Board of Trustees.....	229
The Boston City Hospital.....	483
The Committee on Pathologic Exhibit ..	226
The Death of Levi Cooper Lane.....	227
The Development of Psychiatry.....	376
The Journal of Mental Pathology.....	104
The Journalistic Doctor	383
The Louisiana Purchase Exposition.....	213
The Maryland Hospital News.....	95
The Medical Director of the Louisiana Purchase Exposition	371
The Medical Press.....	479
The Mirth Mind Tonic.....	475
The New Officers.....	494
The Obstetrical Society of Boston.....	501
The Peril of Political Paranoia.....	102
The Popular Power of the Profession.....	380
The Power of the Press	224
The Psychically Fit for Freedom.....	228
The Recent Death of Doctor Charles Henry Brown.....	107
The Role of the Jejunum	96
The Story of Lorenz and Lolita.....	487
The Surgeon and the World's Fair.....	219
The Suspected Boston Murderer.....	501
The Unveiling of the Cell.....	218
The "Virchow Krankenhaus"	382
There Were Giant Quacks in Those Days of Seventy-six	384
Total Depravity and Indigestion.....	95
Waldeyer of America.....	104
Was it Morbid Automatism, Delusional Insanity or a Scheme.....	482
Water for St. Louis.....	485
William MacCormick.....	96
The Patrick Case Medico-Legally Considered	473

REVIEWS.

A Practical Manual of Insanity.....	233
A Practical Manual of Insanity.....	388
A Start and a Finish.....	118
A System of Physiologic Therapeutics.....	114
A Text Book on Practical Obstetrics.....	234
Church and Peterson's Nervous and Mental Diseases.....	112
Clinical Studies	507
Drug Habits and Their Treatment.....	390
General Paresis	505
Hydrogen Iodide. Syrup Hydriodic Acid	118
Kenkow (The Health).....	117
La Migraine et son Traitement	119
Lecons Sur Les Maladies Du Systeme Nerveuz.....	231
Mariani's Coca Leaf.....	508
Nervousness.....	119
Notes of Roman Institutions	509
Peru—History of Coca.....	115
Progressive Medicine, Vol. II	388
Progressive Medicine, Vol. III.....	113
Psychic Treatment	236
Riley's Toxicology.....	118
Saunders' American Year-Book.....	234
Studies in Psychology of Sex; Sexual Inversion.....	110
The American Naturalist.....	507
Text Book of Psychiatry.....	117
The Criminal.....	116
The Czolgosz Case.....	230
The Diagnosis of Nervous and Mental Diseases.....	235
The Force of Mind	506
The Nervous Exhaustion Due to West Point Training.....	108
The Physician's Pocket Account Book.....	508
The Physician's Visiting List.....	508
The Treatment of Tabetic Ataxia.....	504
Third Series, Vol. XIII.....	389
Veint de Paraire	235

THE
ALIENIST AND NEUROLOGIST.

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No. 1.

THE ACQUIREMENT OF NERVOUS HEALTH.*

By F. SAVARY PEARCE, M.D.,

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Professor of Nervous and Mental Diseases in the Medico-Chirurgical College of Philadelphia.

GENTLEMEN:—A somewhat paradoxical title you may say I have chosen upon which to address you. This is true, but in the chess game of life paradoxes do come and even figurative English at command will not quite permit a visitor with you today to use better terms to describe the full meaning of this broad subject under discussion.

We should like to contrast the traditional three B's—brains, brawn and belly—against the three W's—wine, women and worry—as complementary trios of the state of nervous health of people, but 'tis too old, yet an unheeded story. I am not desiring to go further today than toward a study therefore in pathogenesis of nervous diseases. That some potent sources of the acquired nervousness so frequently seen in American life does exist, all will admit. What a pitiable sight to behold, since too prevention is at hand. The evil predisposing causes can and should be

*Read before the twenty-seventh annual meeting of the Mississippi Valley Medical Association at Put-In-Bay Sept. 13, 1901, and the semi-annual meeting of the District Medical Society, Cumberland County, N. J., October 8, 1901.

largely eradicated. We are to advise then ways to prevent people and individuals from becoming liable to and to actually suffer functional nervous diseases, people on the verge of nervous break-down; or those who, by abusing certain privileges in living, shall surely bring on a collapse in due time. Here alone can we withdraw the moat.

It is more frequently in those who are not the subjects of a nervous heredity too that I call your attention toward in advising for wider prophylaxis in medicine, especially in nervous and mental disease. It is this class of business man or woman, for example, who has no warning of his doom; for, as Dr. Weir Mitchell has ably set it down, the nervous system's "wear and tear" is not felt as pain which is the dominating guide to the average man for his assuming self to be ill.

The less learned laborer does differently. He seeks rest from the comfortable tire of his muscles and hence seldom collapses. Would it were that we could assign his intellect a place in the apparently more conservative plan of life he pursues; but alas, 'tis but nature's force for the healing balm to assert itself—sleep. Recapitulation and assurance of success in bringing about nervous health in persons of nervous temperament impels me to go on more in detail. I have had no more grateful patients than those who had been guided away from that baneful state of health, "general nervousness."

SIGNS OF INSIDIOUS NERVOUS COLLAPSE.

Loss of memory and lack of concentration in a banker or professional man is of serious import and should be the sign-board to warn him from the precipice down which he will surely fall with a crash, more or less severe to his nervous health. And, in my experience, let a man past forty years insult his nervous system to such degree as to become a typical neurasthenic and such a one can never quite recover. Health ever after becomes a delusion and a snare. He will work in starts, but continuity of labor I have never found for days at a time in such people, even though no somatic signs present. Depending also upon the

condition of the gastro-intestinal tract, governed by the sympathetic system, we will have symptoms in warning of a nervous break-down which the patient or every physician perhaps will judge as a transient "wind dyspepsia;" but which to the trained physician will be a signal warning of serious auto-intoxication, for, as a sequella, mal-nutrition of the central nervous system occurs. Indeed the sympathetic asthenia thus prevailing means, of course, loss of control of the great involuntary functions of the human body, especially of metabolism so vital to nervous health. Then circulatory disturbances, brought about by overwork of the sympathetic system, add another masked evil by lessening the proper blood supply to the several cerebro-spinal nervous centres, and at once the pathogenesis of neurasthenia or other serious maladies is surely established. It may be a hysteria, that disorder of the emotion which is recognized so frequently, but the further study of its cause and hence detail treatment of which is so frequently neglected; the loss of confidence the patient has in his doctor being in the great majority of such cases undoubtedly due to the lack of fullest understanding of the case, written so forcefully, though subconsciously, upon the physiognomy of the physician.

Here it is in place to mention the value of a recent work, "Unconscious Mind," by Dr. Schofield of England, which elucidates the pith of this influence of mind over matter in a practical way. That favorable metabolic changes can accrue from a bright mental state, I have seen in not a few cases of melancholia where persistent efforts, as in conversation and music for the sufferer, was a winning card to cure. An intelligent nurse or attendant is a *sine qua non* for success here.

There are two classes of acquired nervousness which should be judged from a civic or social point of view rather than from the medical aspect: A—Cases due to inevitable causes, such as worry over calamities in a family; and B—Cases following absolutely preventable causes, such as worry over occurrences of every day life which the high-strung American takes on almost with a studied effort.

There are distinct cases coming under both of these headings which must be carefully selected before the physician can hope for anything like success in the prevention of nervous and mental disease of the insidious types to which we are confining the paper.

I shall now endeavor to bring out the salient points in cases to be recited where the advice given, being weighed and carried out by the sufferer thus instilled to hopefulness, wherein the suppression of dire results were pretty positively avoided.

Case 1: Mrs. B., aet 40, always a healthy woman, in the better walks of life, who brought up a family with due indulgence, as a mother, and as a finale, sought the happiness of her daughters, naturally enough, through marriage. In this she had been successful, save in the case of the eldest daughter who was married with great *eclat* to a man whom the mother, with a sudden shock, discovered was a dipsomaniac and the daughter was doomed to a life of mortification to say the least, in which the mother, our patient, shared ten-fold, and a melancholia followed which medicaments, change of scene, and the whole gamut of desirable methods of treatment, I am sure, will never quite overcome. The above case, which need not be detailed further, is an example of the "inevitable abortion" of endeavor to cure, so well phrased by our obstetrical confreres. On the other hand, I would feel certain of prompt recovery in this woman if the mental depression could be wiped away by regeneration of the son. Loss of her mental health will constantly be the fruit from such seed. The mind alone dominates this case.

Case 2: Miss Y., aet 30, a subject of hystero-neurasthenia of distinctly acquired type, due to the same baneful influence—an alcoholic brother. The patient has been completely restored to health since the abandonment of dissipation by the brother to whom she was entirely devoted. My efforts were to create a cheerful frame of mind through rest-cure and fattening. The brother did the *real* cure.

Case 3: Miss R., aet. 34, a woman in perfect physical

health and without any heredity as to nervous disease whatever, through a life of lack of the initiative, and in which endeavor was never considered essential, at the age mentioned came to a mental status pitiable to observe, in which there was no interest in life and in which she felt there was physical breakdown dominating her state, from the extreme weakness on exertion, and palpitation of the heart, etc. The usual methods of the general practitioner, who did not attend the mental aspect, failed. Finally charlatanism was resorted to, with the result of greater complications in the case. With the careful elimination of organic trouble by a thorough examination, the patient was impressed with our statement that no physical disability existed. The plain advice of regulation of life with definite duties of an intellectual and physical nature, such as light reading, rowing and calisthenics, have acted as sheet anchors for beginning a cure which seems will ultimately come.

Case 4: Dr. K. is an example of that general nervousness coming on at the age of 30 years in a man of athletic tendencies and good physique. He was a track runner of distinction in college days. From lack of proper proportion in his mental and physical work after graduation he became the subject of general nervousness—fidgetiveness well expressing the motor excitability, while persistent disturbances of circulation was manifest by leaky skin and coldness of the extremities, while vertigo of distinct objective type harassed him much in locomotion, but when an attack was forewarned, lying down would give relief by restoring the proper flow of blood to the central nervous system.

Here was a case that by exclusion we decided was neurasthenic largely or an active (muscular) type. The man is of extreme intelligence and carried out our detailed advice—the one in a thousand.

By cutting down tobacco to almost nil, slowing down his extreme muscular activity by which he was using up his nerve energy too rapidly, horseback riding and simple feeding, with regulation of hours of sleep to eight in twen-

ty-four, the physician is growing back to nervous health as rapidly as common sense methods will allow.

The opposite is shown in the following:

Case 5: W. B. H., aet 22, a young man of brains, a literary genius, and of but average physique, came to me a year ago suffering from headache, general restlessness of dream states and a lassitude out of proportion to the cause for it. His eyes and all other organs were normal. The patient had no vicious habits. Since elimination proved this acquired irritability of the central nervous system to be due to lack of physical build and exercise largely. Walking a half hour daily in the open air, light calisthenics, a free supply of proteid food stuffs and hot bathing to favor circulation in the skin, has wonderfully improved the man.

What fully promised to be a nervous wreck twelve months ago, is now, to use his words, "calm and composed." It is, with no exaggeration, a very important event that this young person is saved to do a great work in literature. The case has well repaid me in this thought alone; my best fee. The riddles of the nervous system are legion, but many can be solved, and scientifically.

Case 6: I shall make a final word in briefly reporting the case of A. B., aet 19 years, seen in the practice of Dr. E. Pearce of Steubenville, Ohio, August 20th, 1901.

Miss B. had evidently dreamed of burglars being in the house. She came to her father at night perfectly mute and making signs of her fright by the marauders. She had no convulsion and seemed quite composed in every way the next day when there was found nothing wrong with the vocal or other organs. There was no motor palsy anywhere but there did exist a segmental anaesthesia of both arms to shoulders. At the end of a week the patient suddenly began to talk and in a few days speech became normal and the loss of sensation disappeared entirely.

It was proven that no burglars were in the house, but some of the girl's garments were seen out of the window through which she persisted they had descended to the ground. The girl was truthful.

This case probably represents one of unconscious mental impression, as to the fact of a dream auto-suggestion for her throwing the clothing out of the window, and for the suggestion likewise of her aphasia, due, as she persisted, to one of the men having slid a rod down her throat and stating she "could not talk."

I have never seen such a case before, but it is valuable to force the conclusion of conscious and unconscious mind action, a point much disputed in recent years by psychologists who could add much to their armamentarium of scientific facts by the advantage of practical studies at the bedside.

The point that brings this case into place in this contribution is that this woman should be guarded against becoming a confirmed hysterical invalid by proper explanation of the case and thus clearing up the psychology of a rare condition spent on our patient.

Conclusions: Many nervous and mental diseases have perverted function as a basis for development. The mental aspect must be recognized. Recognizing *pathogenesis* in this light and seeking *early signs* which are not now given sufficient attention by the profession (such as irritability of the motor and sensory nervous system—lassitude, forgetfulness, etc., in a person of intelligence who tells you in the history that such changes in his life do occur) we can hope by this scientific borderland study to tend for regeneration of many people who will ultimately go into some of the graver organic system diseases, when it can not be truly said, "it is never too late to mend," to use words of the accurate novelist, Charles Reade.

Short vacations, a trip on your beautiful lakes, or the quieting ocean voyage, canoeing, horseback riding, overfeeding with milk and plain wholesome foods, good company to aid digestion scientifically, if you please, music, bowling, golf, etc., all selected for the case in hand by careful somatic and mental study, will avail much in preventing general nervousness, the borderland of perhaps irreparable

nervous and mental disease; and that nervous health can be thus acquired in those who do not know (but would wish to if they could learn its value) by carrying out such advise given in the paper.

A final word of appeal is made to you, gentlemen, to disseminate these practical facts among the laity.

MANUAL STIGMATA OF DEGENERATION.

By J. ELVIN COURTNEY, M. D.,
DENVER, COLORADO.

OF the numerous stigmata which strike the eye of the trained observer, few are of more value than the congenital imperfections and malformations of the human hand, so visible and palpable is this member and so naturally does it fall under the examination and observation of the expert. These marks are of especial value in the absence of other and grosser signs, such as cleft palate, asymmetry of the cranium, and so forth. While it is not argued that all of the ever notable defects of development of the hand portend serious psychical degeneracy, there are several of these defects seen often enough to attract attention and impress the observer that they belong to persons with certain more or less pronounced mental obliquities, or predisposition thereto, and are to be seriously considered in forming opinions of the mental qualities of the individuals. In the prognosis in mental and nervous troubles and in predicting permanency of recovery from such affections the presence of these stigmata are decidedly unfavorable. The same applies to persons of the delinquent and reformatory class. The following are the most frequent and significant manual stigmata: Stub-thumb or abbreviation and clubbing of the last phalanx of the thumb; spur-little finger or marked shortening of the little finger, with or without deflection downward of the lost phalanx (better seen in X-ray photographs) and infantile nails, the nails being small, short, thin and disposed to flare and curl at the edges. Persons presenting these stigmata need not necessarily be delinquent nor defective, but are almost certainly

of neurotic temperament and liable to hypochondria, hysteria and to become the victims of morphine or alcohol.

The evolution to mechanical perfection of the thumb seems especially to have marked the ascent of man to that manual as well as mental supremacy which he holds over other animals. His nearest relative, the anthropoid ape, has a very indifferent thumb. And in man the abbreviation and stubbing of this member implies a stigma at least, of physical and psychical reversion to a lower type. In a number of measurements of the lost phalanx of the thumb when simply flexed at right angles to the joint above, the writer found average measurements 3.5 c.m. or about $1\frac{3}{4}$ inches for men and 3 c.m. or about $1\frac{1}{8}$ inches for women in normal persons. A number of measurements of neurotics showed $\frac{1}{2}$ c.m. or about $\frac{3}{8}$ inch of shortening. The little fingers in which pronounced stigmata appeared came only about midway between the last joint of the ring finger and the joint above; whereas normally the tip of the little finger comes about flush with the last joint of the ring finger.

The lower hand in Figure 1 illustrates two of the conditions mentioned, abbreviation of the thumb and little finger; the hand above is that of a normal person. The subject of this photograph has suffered from attacks of mania for twelve years, enjoying more or less an immoral life. The peculiarity of the thumb had been noted by the patient who said that a sister had the same and evidently the stigma was hereditary; another person with the same mark had an insane and criminal father, and still another had an insane sister and was herself addicted to drink and perverted sexual feelings.



Figure 1.

complete remissions of from four months to nearly two years. One woman with the thumb stigma was an habitue of morphine and liquor and led

SEXUAL INVERSION AMONG PRIMITIVE RACES

By C. G. SELIGMANN,

M. R. C. S. ENG., L. R. C. P. LOND.

Superintendent of the Clinical Laboratory, St. Thomas' Hospital, London.

BUT few details of sexual inversion and perversion are known among savages, and it is commonly and tacitly assumed that abnormalities of the sexual instinct are the concomitants of Oriental luxury or advanced civilization. Too often merely the grosser forms of perversion have been looked for or noted, the condition described by Moll as psycho-sexual hermaphroditism, in which, while the psychological resemblance to the opposite sex colours the whole social life of the individual, there are also present traces of normal hetero-sexual instinct, being unrecognized or ignored. Among American Indians, from Alaska to Brazil, homosexual practices occur or occurred. Sodomy was prevalent among the Nahua (Aztec) and Maya nations* the latter tolerating if not systematizing its practice. Among savage races Bancroft, speaking of the Isthmian tribes of Cueba and Careba, says: "The caciques and some of the head men kept harems of youths who were dressed as women, did women's work about the house, and were exempt from war and its fatigues."† Again: "In the province of Tamaulipa there were public brothels where men enacted the part of women,"‡ while the modern Omaha have a special name signifying hermaphrodite for the passive agent, whom they regard with contempt.|| Among the Aleuts of Alaska

*Bancroft, *Native Races of the Pacific Coast*, vol. II, pp. 467, 677.

†*Ibid.*, vol. I, p. 774.

‡*Ibid.*, vol. I, p. 635.

||Third Annual Report of the Bureau of Ethnology, p. 365, Washington, 1884.

certain boys, whom Holmberg* states were selected for their girlish appearance, are brought up as girls and decorated as women. Similar instances might be multiplied, but, apart from the last mentioned, which, according to Havelock Ellis, suggests the possibility of congenital inversion, they are all examples of the grossest forms of perversion, and no details suggesting that any of these are cases of congenital inversion are given. Similarly there is reason to believe that the pederasty practiced by certain New Caledonian warriors, which is stated to constitute a relationship more sacred than blood-brotherhood, is resorted to for convenience and perhaps for Malthusian reasons,† as it is among some Papuans of the western district of British New Guinea.‡

A somewhat different condition of things prevails among the Tupi, a Brazilian tribe in a low stage of civilization to whom Lomonaco|| has devoted considerable attention. While noting that sodomy was prevalent in almost every local tribe, and that a class of men were met with whose function it was to lend themselves to the practice, he states that among the Tupi many women took no husbands, devoting themselves for the whole of their lives to perpetual chastity, and quotes Gandavo§ to the effect that there are some women among those who decide to be chaste who will not consent to know men even under threats of death. They wear their hair cut in the same fashion as the males, go to war with their bows and arrows, and take part in the chase. They frequent the company of men and each one of them has a woman who waits on her, to whom she says she is married and "with whom she communicates and converses like man and wife." It seems probable that here, among a people addicted to sodomy and in whom there is no strong feeling against homo-sexual relations,

*Quoted by Havelock Ellis and J. A. Symonds in *Das Kontrare Geschlechtsgefühl*, Leipzig, 1896.

†Foley: *Bulletins de la Société d'Anthropologie de Paris*, 1879.

‡Beardmore, *Journal of the Anthropological Institute*, vol. xix, 1890.

||Sulle Razze Indigene del Brasile, *Archivio per l'Antropologia e la Etnologia*, 1889 Florence.

‡Historia da Província de Santa Cruz, quoted by Lomonaco, *loc. cit.*

there is an element of true congenital inversion similar to that present in the sporadic cases among Papuans to be immediately described.

While with the Cambridge Anthropological Expedition to Torres Straits and New Guinea several instances were met with in the Rigo district of British New Guinea where, unlike the Fly river district, the habitual practice of paederasty is unknown.* These cases occurred among a people practically still in their stone age and so uncontaminated by external influences that even white men's diseases had not yet obtained a footing among them. In the following notes the condition of the genitals is given on what is probably good authority, but in no case would it have been politic to have attempted to verify my informants' descriptions by actual examination. Three of the four cases alluded to were inhabitants of Bulaa, a considerable settlement built for the most part on piles in the sea. One of these had been dead for some time. In her, assuming the native diagnosis of sex to have been correct, there was maldevelopment of the genitalia, while the remaining two Bulaa cases are probably pure instances of psycho-sexual hermaphroditism.

Hiro, a female aged about 30 years, is a daughter of one of the most influential men of the tribe. She is rather taller and her figure is less rounded than that of the average Bulaa women. The skin over her breasts is somewhat wrinkled, but apparently the glands themselves are normally developed. Her thighs and buttocks are tattooed in the usual female manner and her genitals are said to be normal and the mons hairy. As to previous history, as a little girl she preferred playing boys' games which by all accounts she played remarkably well; as she got older she still preferred boys as companions and avoided her own sex. For a long time she resolutely refused to adopt the usual girl's petticoat and at puberty was only compelled by threats to do so. For the next two years her conduct was not remarkable. Menstruation, which was said to be neither

*Cf. Beardmore, *loc. cit.*

irregular nor scanty, occurred and has since been normal in character. At about the age of 16 years she aborted; since then she has lived with her mother and has refused at least three offers of marriage. As far as can be ascertained she has never had a lover of her own sex and since the abortion has lived a solitary life or has at least carried on no intrigue of sufficient duration to arrest public attention. She is said to be more intelligent than the average woman and carries weights man-fashion on her shoulders instead of by a band round her forehead as other women do. In the garden she uses the heavy digging stick (*kai*) for turning over the soil, which is essentially man's work, women, as a rule, only weeding, planting, and digging yams.

An instance of pseudo-hermaphroditism occurring two generations ago was well remembered and appreciated. The subject who, since she had connection in that capacity, was considered a woman, was said to have possessed both penis and vagina; there was some doubt as to whether she had testes. It was stated that she menstruated and passed urine *per vaginam* and that her breasts were small. She wore a modified petticoat, consisting of a short tuft in front and behind, and spent most of her time among the men of the tribe, with whom she took part in any hunting or fighting that was going on.

Gima, aged about 30 years, is a "chief" much trusted by the government and very intelligent. He is thoroughly masculine in appearance and active, plucky, and energetic. Having become a man of importance and a firm supporter of the Government he now wears a jacket and short trousers. It is, however, a matter of common tribal knowledge that his thighs and buttocks are tattooed in the elaborate fashion peculiar to women, without which no girl is considered marriageable. His genitals are said to be normal. He is said to have previously taken the passive part in sodomy soon after puberty, later he married, but had no children, and divorced his wife on the score of infidelity. He has since lived as a bachelor, it is stated to avoid women, and to have, at any rate till very recently, habitually taken the passive part.

I am indebted to Mr. A. C. English, Government agent of the Rigo district, for notes of the following case, that of a man belonging to the Garia, an inland tribe which is gradually pressing down towards the coast from the foot-hills of the main range.

Unasé is aged about 50 years, unmarried, and is somewhat doubtfully stated to have abstained from intercourse since soon after puberty. His breasts are normally developed and there is hair on his chest; his genitals are normal and hairy; virile organ perhaps rather small; his voice is shrill. He habitually associates with women and accompanies them on their trading expeditions towards the coast, when he carries his "trade" slung by a band round his forehead as women do. He takes a woman's part in domestic and social life as well as in the work he does in the garden. In spite of this he has on one occasion joined a war party and bears on his back the tattoo marks which distinguish the successful homicide.

With these cases may be compared the following occurring in Sarawak among a people in the barbarous stage. At Sibu on the Rejang river, Budok, a Mahomedan Milanau,* probably suffering from elephantiasis, asked for medicine for swellings in both groins. He refused examination and it was noticed that he wore a veil† such as Malay women wear. His voice was soft, not shrill or treble; physically he was small-boned and of a somewhat delicate build, but not undersized, and on the whole masculine in appearance. He was said to have normal breasts and genitals, but not to care for intercourse, in place of which he took the passive role in sodomy. He sat with the women in the house and like them sewed and made clothes, baked cakes, and weeded the paddy fields. He wore women's clothes habitually and whenever possible.

*H. Laing Roth ("The Natives of Sarawak and British North Borneo," vol. I, p. 12) says: "The Milanaus are a quiet people, not Mahomedan, but dressing like the Malays and cultivating sago." Recently Mahomedanism has made considerable progress among them; there is, however, no reason to believe that it has led to or encouraged sexual perversion.

†Prostitutes at Kuching wore an exactly similar black veil.

JUVENILE FEMALE DELINQUENTS.*

By E. S. TALBOT, M.D., D. D. S.

CHICAGO.

MARION DE LORME lived to be one hundred and thirty-five (from 1588 to 1723) so that the Parisians wishing to instance something which resisted the assaults of time cited her and the tower of Notre Dame. She buried four husbands and was over eighty before losing her freshness of mind or body. Ninon de L'enclos at eighty still had as glossy black hair as in youth, white teeth, bright eyes, full form and excited a violent passion in the Abbe de Chateauneuf a youth of twenty.

Many Greek courtesans were celebrated even in old age such as Plangone, Pinope, Gnatone, Phryne and Thais. Historians maintain that Thais died at seventy without ever having abandoned her profession. Plutarch relates that she pursued a young Thessalian with whom she was in love into the temple of Venus whereupon the women of the country killed her, angry at her audacity, and jealous of her charms. Phryne when old, had lost nothing of her beauty and she exacted large sums to the day of her death, wittily describing the practice as "selling the dregs of her wine dear."

The occasions which present themselves to draw the naturally normal woman into crime are, according to Lombroso, multiplied now by the higher education conceded to females but of which they can make no use by earning their bread in offices or professions. Many women of intelligence find themseves with nothing to show in return for

*Continued from ALIENIST AND NEUROLOGIST, October, 1901.

much expense and labor. They are reduced to want while conscious of not deserving it. Being debarred from the probability of matrimony owing to the ordinary man's dislike to a well instructed woman they have no resource but in suicide, crime, or prostitution; the more chaste kill themselves, the others sell themselves or commit thefts. According to Mace, governesses are to be found in St. Lazare imprisoned for thefts of gloves, veils, umbrellas, pocket-handkerchiefs and other articles necessary for them to make a good appearance in school for whose purchase they cannot always earn enough. They have been driven to the offense consequently by the exigencies of their profession. The number of governesses who have no pupils is so great that a certificate, whether high or low class, becomes the case of suicide, of theft or prostitution.

For centuries, as J. G. Kiernan* remarks, while man was the hunter and warrior, woman was the farmer, tool-maker, carpenter, tailor, tanner, shoemaker and decorative artist. Every art of civilized nations originated with woman. When hunting and war ceased to be the chief male occupations man intruded on arts created by woman.

Evolution in biology (an advance from the indefinite homogeneous to the definite heterogeneous with the loss of explosive force,) consists in the creation of checks; these in man result in the creation of a secondary *ego*, the source of all morality. So far as the race is concerned, the creation of this secondary *ego* is most important in woman. Checks will not be created when woman is secure in the "home," gynaseum or harem from evil. Society, as Voltaire remarks, is created by women. The nations which seclude women are unsociable. Seclusion hence destroys individuality, the source of ethical advance.

The question arises whether, as seems indicated, the increase of other criminality at the expense of prostitution be not an expression of advance. In a certain sense, as even Havelock Ellis admits, this is true. Lombroso has crudely recognized the same fact. While in primitive conditions prostitution in the modern sense was exceptional since the

*ALIENIST AND NEUROLOGIST, 1895.

woman for religious reasons or at the demand of her husband and relatives, gave herself for hire, still there was much sexual laxity consistent with tribal ethics which were not of those of civilization. Primitive man became criminal in civilization not from its degrading influence but because he was judged by new standards. Under such conditions crime would take the line of least resistance in the weak. Hence what women had formerly done for religion or at parental or family dictation, they would do for their own advantage. Under Greek civilization, the only career for cultured women was, prior to the time of Pericles, that opened by prostitution, whence came the Hetarai. To a certain extent conditions of primitive life foster the employment of sexual weapons by women as a means of securing power or even life. This condition however, while the germ of civilized prostitution, had not its abject features since the women that adopted it were rather above than below the then existing ethical standards. Under primitive and even under comparatively high Aryan and Semitic standards, woman was the property of man. Prostitution lost its immoral nature when commanded by the husband or father who had the right to dispose of his property as he would. Woman under such conditions, was guilty not of prostitution, when she gave herself either in marriage or without sexually for purposes of gain, but of theft.*

In analyzing the inter-relation of prostitution and criminality these facts must be taken into consideration.

The view that criminality was an advance on prostitution is borne out by the valuable researches of Pauline Tarnowsky† on the Russian prostitutes and female thieves. After careful analysis of the data obtained she expresses the opinion that: "Professional prostitutes are incomplete beings affected by arrest of development generally due to morbid heredity and present mental and physical signs of degeneracy in accord with their imperfect evolution. Female thieves are less tainted with heredity than prostitutes and have fewer signs of degeneracy. The intellectual and moral

*Letourneau *Evolution of Marriage*.

†Etudes Anthropometriques sur les Voleuses et Prostitutes.

level of the female thief exceeds that of the prostitute. She has more self-respect, more intelligence, is more energetic and struggles better in the contest for existence. She is less lazy and more given to work which she does not fear. However incorrigible be the professional thief and however numerous her crimes, she cannot commit and repeat them every hour of the day, it being assumed that these and prostitution are equally vicious unities. The thief sins but by intervals while the prostitute in a house sells her body without relaxation, accepts her abject trade agreeably and does not want to change it. Laziness and absence of moral sense are the principal traits characteristic of the prostitute. The thief generally gives evidence of a more stable and serious disposition than the prostitute. She is less given to alcoholic abuse and in confinement can be more readily induced to work."

The confidence operator type of the prostitute is excellently illustrated, as Harriet Alexander* has pointed out, in Alphonsine Plessis idealized by Alexandre Dumas in *Camille*. Her paternal grandmother who was half prostitute, half beggar, gave birth to a son by a country priest. This son was a kind of country Don Juan, a peddler by trade. The maternal grandmother was a nymphomaniac whose son married a woman of loose morals by whom a daughter was born. This daughter married the peddler and their child was Camille. The idealized Camille declines an opportunity for a higher life offered her by a Duke whose daughter she resembles. She prefers the glitter, glare and boisterousness of her life to the settled conditions of normal civilized existence. The religiosity which she displayed is very frequent among female criminals and prostitutes according to Lombroso, Marro, Ferrero, and Havelock Ellis. This results from, as Spurgeon points out in one of his sermons, that strange yet natural law by which excessive religion is next door to sensuality. Emotional religious appeals as the Rev. J. M. Wilson† shows, are far from rooting out sensuality and even stimulate increased licentiousness. In the

**Medical Standard* Vol. XIV P. 43.

†*Journal of Education*, 1881.

case of Camille, as in others, this religiosity led to the term *Lorette* being applied to the French *demi-monde* during the second empire. This title was given because their favorite church was that of the Virgin of Loretto. The same phenomena have been noticed among female criminals. The criminal, as Havelock Ellis remarks, when not superstitiously devout is usually stupidly or brutally indifferent. The phenomena of religiosity as might be expected is peculiarly frequent among sexual offenders. Sixty-one per cent of these are frequenters of church. Among 200 Italian murderers Ferri did not find one who was irreligious. When a woman who had strangled and dismembered a child in order to spite its relations heard her sentence of death pronounced, she turned to her lawyers and said: "Death is nothing. It is the salvation of the soul that is everything. When that is safe, the rest is of no account."

The apparent increase of crimes among women is not due solely to the influence of education or of the removal of seclusion but to the fact that criminal woman who, formerly secluded, induced man to commit crime for her, is now, under improved social conditions, compelled to commit her own crimes. This is especially the case, as there is less chance for detection than there was under conditions where as in Spain and elsewhere women are closely watched. Careful study of sex in crime indicates that the crime rate of anti-social criminality falls among men as it rises among women. With the growing enfranchisement of women there is also a greater tendency to hold them to stricter accountability and hence a greater tendency to increase in the registration of criminality. With the growth of sentiment against drunkenness many criminals are now made by law from offenders formerly ignored. Unfortunately also early statistics are very defective, since a great many sentences were suspended if criminals, especially women, consented to go beyond the seas. In dealing with the influences of education it must be remembered that many moral defectives are now able to obtain education which formerly was inaccessible to them. Education has not increased crime, but more criminals are educated.

For anthropometric purposes I began a series of investigations along the lines already indicated at the State Home for Female Juvenile Offenders at Geneva, Illinois. For the data here employed I am deeply indebted to Mrs. Ophelia Amigh, its efficient matron, and to Drs. H. L. LaBaum, Ava Michener and Mary C. Hollister.

The mental side is the first that attracts attention. There was but one demonstrable case of insanity. This was of the periodic type and was not benefited by hospital treatment. The insane source of the alleged criminality was discovered in the State Home, not by the parents or court officials who sent the subject there.

No demonstrable motor expressions of epilepsy have been observed, albeit some of the mental phenomena manifested, decidedly suggest epilepsy. The craving for excitement, for intoxication, for uproar, which is such a characteristic of primitive man and of frontiersmen, finds among criminals its chief satisfaction outside the prison, in the love of orgy which, according to Ellis, is confined in its extreme forms to the criminal and his intimate ally, the prostitute. Ellis here puts things too strongly since this condition, an expression of unstable equilibrium, crops up very frequently under conditions of strain among people who certainly do not belong to the criminal class. Indeed in many natures strain from conventionality produces the effect of the prison on criminals. In Germany periodic explosions in prisons are known as *Zuchthaus-knall* and have been described by Delbruck and Krafft-Ebing. In the English-speaking countries they are comparatively common and were described by Eliza Farnham* in Sing Sing prison over half a century ago. Sometimes the prisoners know when the fit is coming on and will ask to be locked in refractory wards themselves. The younger they are the worse they behave. Some years ago in the Illinois State Home then under charge of a Christian Scientist, an insurrection drove nearly all the officers from the place. Nerve storms are still frequent in this institution. In inmates of a low order of intelligence personal violence rather than

**American Journal of Insanity*, April, 1846.

simple destructiveness often occurs. These outbreaks have a tendency to spread because they are often stirred up for mischievousness.

Like Dr. Pauline Tarnowsky, Drs. L. H. LaBaum and Ava Michener have found that the onset of puberty, so far as the menses are concerned, displays many irregularities. The usual influence of institutionalism on arrest and irregularity of menstruation has here to be taken into account. Allowing for this, menstruation often ceases for a month or two or a year after it is once established. This was long ago noted by Du Chatelet* among the same class in Paris sent to the reformatory convents. The girls thus affected are in perfect health and show no ill effect from the cessation. The menstrual flow commences again without the aid of medicine. Some of the girls who have been in the Home since the age of 10 or 11 years have never menstruated, yet are robust, healthy girls, nearing the time for their final dismissal (the age of 18) from the Home.

It is a noteworthy fact that among many primitive races menstruation displays many irregularities.† Cook, the ethnologist of the Peary expedition, found that menstruation among the Eskimo women only began after the age of 19 and was usually suppressed during the winter months. Lapland and Greenland women usually menstruate every three months or but two or three times a year. On the Faroe Islands menstruation is frequently absent. Among the Samoyds menstruation is so slight that its existence has been denied. Among the Guianas of Paraguay menstruation is not only slight in amount but the periods are separated by long intervals. According to A. B. Holder, the full-blooded Indians of Montana do not menstruate as freely as white women.‡ Among the naked women of Tierra del Fuego there are no physical signs of the menses. From time to time, cases appear in American medical literature in which healthy women resemble the Eskimo and Fuegians in this particular.

**American Journal of Obstetrics*, 1892.

†*La Prostitution*.

‡*Psychology of Sex*, vol. II, Ellis.

Of the inmates of the institution examined, one began menstruating at 9, two at 10, two at 11, twelve at 12, thirty at 13, twenty-eight at 14, fifteen at 15, and eight at 16. These figures differ from those given by Pauline Tarnowsky. Two per cent began at 11, fourteen per cent at 12, fourteen and sixteen hundredths per cent at 13, fifteen and thirty-three hundredths per cent at 14, nineteen and thirty-three hundredths per cent at 15, twenty and sixty-six hundredths per cent at 16, eight and sixty-six hundredths per cent at 17, three and thirty-three hundredths per cent at 18, and two per cent at 19. Forty per cent of Tarnowski's prostitutes had begun menstruation between 11 and 15. Ninety per cent of the Geneva juvenile offenders had begun menstruation between the same periods.

There are therefore striking differences as to the late and early onset of menstruation between the Chicago and the St. Petersburg cases. Neither climate nor early sexual knowledge will account for these differences. It is true that Joubert* of Calcutta claims that early menstruation in the Hindoos is due to precocious sexual knowledge and early exposure to sexual excitement. From the early marriages of the Hindoos and the phallic element of their worship these conditions are obviously present. To them many of the Indian tribes which menstruate late ascribe the onset of menstruation. Such conditions are present in all large cities in slum districts where the population is originally of rural origin. In all probability atavistic peculiarities when not due to sexual precocity, the product of arrest at the senile or simian epoch of intra-uterine existence, are of influence here.

The influence of irregular sexual life possibly dependent on arrest at the indifferent sex period of intra-uterine life, must be taken into account, since as Dr. Michener remarks, three-fourths of the inmates of the State Home are addicted to sexual perversities among themselves indicating the existence of sexual perversion.

The genitals in eighty-three cases were normal; in eleven cases were excessively developed and in seven were

**British Medical Journal*, May 15, 1895.

arrested in development. There was one case of markedly deformed labia. A large proportion of the inmates had had early sexual relations, as determined by confession or hymenal conditions. The condition of the hymen and vagina in many of these girls with their explanation of the same justifies the opinion that practices described by W. T. Gibb* as present in New York are to be found in Chicago, albeit imported from Europe. Gibb cites cases where adult females, with designs to enlarge a child's genital organs so as to fit her for coitus, introduce the finger, candles, round sticks or stones into the child's vagina. In the observance of ancient phallic worship, stones shaped like the adult penis were forced into the vaginæ of children to prepare them for sexual intercourse. The practice of thus injuring children is common in Europe. Mothers themselves frequently inflict these injuries upon their own children for the purpose of selling them into prostitution, very young children being particularly desired for sexual intercourse, especially by old men. Casper† cites the case of a 10-year-old German girl whose vagina had been dilated in this way by her mother, who first used her fingers as dilators, and then forced a long smooth stone into the vagina. Ogston‡ refers to this iniquitous practice in Edinburgh and describes the peculiar funnel-like dilatation, it is also described by Tardieu‡ and others.

There were nine cases of syphilis and fifty-four of gonorrhœa which, considering the class is not a very high percentage. The percentage of accidentally acquired venereal disease could not be determined. It is probable that this is large since cleanliness is not as predominant among these girls as it is with open prostitutes. Clandestine prostitution for this reason is the great source of venereal disease.

Among the inmates nearly all types of criminals occur. There are, to adopt my classification elsewhere given, congenital criminals, accidental criminals, periodical crimi-

*McLane Hamilton's *Legal Medicine*, Vol. I, p. 650.

†*Forensic Medicine*.

‡*Medical Jurisprudence*.

§*Attentats aux Moeurs*.

nals, criminals on occasion and law made criminals. As elsewhere the weak-willed criminals predominate. There is also a by no means small number whom external accident has placed in the institution. Home environment as already pointed out has been a potent factor in this particular.

The number examined was 111, of whom seventeen were Americans, twenty-eight Germans, twelve negroes, eighteen Irish, three Jews, four Polish, nine English, three French, one Italian, one Swedish, three Bohemians, seven Scotch, four Norwegians and one Swiss. As parental nationality or race was not obtainable to the extent required these figures cannot be properly analyzed. The Jewish percentage is much greater than is usually claimed but does not much exceed the percentage of other degenerative states among this race, in whom intermarriage has added to the effects of hereditary defect. The percentage of hebephrenia and epilepsy among Jewish boys is as great as this. In all probability many Americans, English and Scotch should be placed among the Irish as of Irish parentage. While environment explains the extremely low crime and prostitution rate of Ireland, still Ireland for centuries has shipped her degenerates to the British colonies, to America, to England and to Scotland. The Irish rate is lower proportionately than the American rate of Irish defectives. The French and French Canadian rate is high, but no higher than the general rate of defectives among this class. The negro rate is by far the highest with perhaps the exception of the Swiss. This is in accord with the growth of degeneracy among urban negroes. City life attracts the most active degenerates from rural districts. Since the war there has been marked increase of degeneracy among the negroes. Another element however, should be taken into consideration; the negro is now more judged by white standards and this produces an undue proportion of negro criminals, hysterics, and lunatics. The usual influence of urban conditions on rural defectives is here evident. The thrifty republic Switzerland has not abandoned its old-time policy of shipping defectives elsewhere. It furnishes likewise an undue proportion of the jobbing "German"

politicians of Chicago. The Scotch and English proportion indicate the effects inebriety may produce on the offspring. To a certain degree this is also illustrated among the Irish. The Bohemian and Polish contingent is large, but no greater than the proportion of degenerates found among the defectives shipped from those countries for labor purposes. The Norwegian proportion is high but no higher than the proportion of hereditary defectives from that country. Among Norway's rural population, monotony, isolation, defective diet and bad sanitary conveniences have produced the same effect on farmers' wives that Awl, Brigham, Ray, Patterson and other American alienists found to be so frequently produced on the farmers' wives of New England, of New York, Pennsylvania, of Ohio and Iowa, during the first four decades of the last century. The same is true to a lesser degree of Sweden. Maritime nations of necessity, moreover, have an undue proportion of juvenile criminals which result from the corruption occurring among sailors through their contact with primitive vices and with vices produced by enforced celibacy.

(*To be Continued*).

CLINICAL OBSERVATIONS ON A NEW HYPNOTIC.*

By Dr. H. SCHOENFELD.

NOTWITHSTANDING the numerous hypnotic drugs which the physician employs in his practice there is a constant accession to the list, which proves conclusively that none of them fulfills the requirements in every direction. As a matter of fact, those in common use show defects of various kinds; it may be that their action is occasionally unreliable or that in consequence of unpleasant and injurious by-effects their influence upon the organism is not entirely free from danger. In respect to promptness of action morphine and chloral hydrate head the list, but we make use of them only in cases in which other remedies are inefficient, or in which it is necessary to secure a rapid and positive effect irrespective of any sequelae. Trional and sulphonal are not indicated for prolonged use, and are contraindicated in some organic diseases.

A new hypnotic has been recently introduced under the name of hedonal. After Schmiedeberg had recommended the urethanes as representatives of a new group of hypnotics it was found that the ethyl urethane was efficient only in considerable doses, and hence not applicable for therapeutic purposes. In order to augment its effect Dreser replaced the ethyl group by higher alcohol radicals, and as a result of experiments on animals became convinced that the combination with methyl propylcarbinol was most serviceable.

*These observations were made in the clinic of Professor Ziemssen, in the University of Munich.

Hedonal is a white crystalline powder, dissolving with difficulty in cold water, readily soluble in hot water and alcohol and tasting like peppermint. Of the results obtained by Dreser in his experiments on animals, which were made on rabbits, fishes and dogs, the one to be particularly emphasized is that hedonal acts far more intensely than ethyl urethane. Even in dogs, which in general are very insusceptible towards hypnotics, sleep was always produced, while Schmiedeberg was unable to accomplish this with ethyl urethane. With regard to the dosage Dreser also noted that a much smaller quantity of hedonal than of trional, sulphonal and chloral hydrate was required to induce a sleep of equal duration. A special advantage of the remedy is its freedom from action upon the vital functions, the respiration and circulation. No material change occurred in the respiration and blood pressure; the temperature fell slightly, so that the artificially produced sleep is very similar to the physiological. In regard to the urinary secretion there was a considerable increase, and by determining the freezing points of the urine before and during the administration of hedonal, Dreser found, on comparison of these, that a specific stimulation of the secreting part of the kidney takes place. Further he found that during hedonal sleep there is a marked retardation of the reflexes, and is led to ascribe to hedonal this altered condition of the nerve cells. He expresses himself as follows on this point: "Under the influence of this hypnotic the nerve cells react and conduct more slowly. In order to excite a reflex movement an increase of the electric current is necessary, and from this it appears that the conditions necessary for the occurrence of sleep, namely, a gradual isolation of the nerve cells from external influences, are effectively brought about through hedonal. The rest thus afforded the central nerve system permits of a healthy sleep."

As Goldmann has pointed out in his article on hedonal, diuresis is particularly marked when the drug is given in solution, and in consequence of this an interruption of sleep may readily occur. For the same reason the duration of sleep may be diminished, since hedonal is rapidly absorbed

and eliminated with equal rapidity. Moreover, if administered in solution the characteristic taste becomes more perceptible. On this account it is advisable to administer the remedy in powder form. Goldmann also calls attention to its complete oxidation into water, carbonic acid and urea, in consequence of which unpleasant after-effects, such as vertigo, nausea, and protracted drowsiness are completely obviated.

Numerous experiments with hedonal have been made in various clinics with favorable results, especial stress being laid by all upon its positive innocuousness. Commonly it was given in doses of 15 to 45 grains, chiefly in the milder cases of agrypnia, with the desired effect. If the sleeplessness was due to painful affections its action was unreliable, since it is only a pure hypnotic and not a sedative. From doses of 15 to 30 grains sleep of seven or more hours duration was obtained, this resembling the normal. The drug had no influence upon the blood pressure, pulse, respiration and temperature, and the variations were not different from those present during physiological sleep. In regard to diuresis the observations of various observers are conflicting.

No injurious effects were observed by any observer. Hedonal was well tolerated by patients suffering from stomach trouble, and could be given in cases of fever and cardiac affections without any injury. Unpleasant by-effects of trivial character have occurred in a few instances, such as eructations (Schüeller) protracted drowsiness (Benedict); attributed by him, however, to the great weakness of the patients and vomiting after the first dose (Menz).

All authors unanimously report that in cases in which hedonal is efficient, the sleep produced is uninterrupted, quiet and dreamless, the patient waking up readily and feeling refreshed. The drug was employed almost exclusively in cases in which sleep was not prevented by physical pains and in conditions of excitement of the central nervous system. Schuster observed satisfactory results from doses of 15 to 30 grains. Sleep occurred immediately and lasted from five to seven hours. In only isolated

instances was there absence of effect or insufficient action, which he attributes to the use of too small doses. In one case of Basedow's disease 30 grains proved ineffective. Schüller who tested hedonal in the Psychiatric Clinic of the University of Vienna, had partially good results, but also reports several cases in which the remedy was completely inactive. He expresses himself as follows: "Hedonal does not belong to the list of almost absolutely reliable hypnotics. Its efficacy is confined rather to cases of slight agrypnia in which, although there is a need for sleep and rest, these are prevented by conditions of excitement in the cerebrum." On the other hand, Raimann found that it failed to act in conditions of marked excitement. De Moor reported good results especially in uncomplicated insomnia. In several patients he observed drowsiness on the day following its administration, but no injurious after-effects, and emphasized particularly that it is well tolerated in cardiac cases without reaction. Haberkant speaks in general very favorably of hedonal, and is firmly convinced of its safety. In conditions of exaltation the use of adequate doses produced sufficient sleep. In several instances he noticed polyuria, which, however, was never so decided as to interrupt sleep. It is his opinion that the increase in the quantity of urine is produced only by large doses given for a long time. He believes that after prolonged administration there is a weakening of the hypnotic effect. The results obtained by Mueller were much less favorable. Aside from a rapid subsidence of the hypnotic influence he observed in two cases tinnitus, vertigo, and double vision. In severe insomnia sleep lasted only a short time, otherwise it extended to eight hours. Occasionally there were complaints of lassitude and nausea the following day. Diuresis was increased in many instances, and occasionally to such an extent as to interrupt sleep.

We see, therefore, that aside from the experience of Mueller, the results were almost completely favorable. These observations I would supplement by my own, which were made in the Clinic of Professor von Ziemssen, at Munich, in which hedonal has been employed since about a

year. Before giving my own opinion on this hypnotic I will first report a series of cases in which hedonal had been administered for a longer or shorter time, in order to illustrate its manner of action.

Case 1. Scurvy, *purpura hemorrhagica*. In this case the patient could not sleep on account of pains. Hedonal was given in the powder form. After 15 grains sleep of three hours duration occurred in about one-quarter of an hour. After 30 grains deep sleep of four to five hours duration ensued, and the rest of the night was passed in light slumber. The occurrence and duration of sleep was greatly influenced by the pains. The quantity of urine was somewhat increased. The general condition was influenced, the pulse, temperature, and respiration and blood pressure showing no change.

Case 2. A. S., aged 46 years; cyrosis of the liver; bronchitis. The patient, who had been sleepless for a number of nights slept well for seven to nine hours after 15 to 30 grains of hedonal. Sleep was occasionally disturbed by dreams; diuresis was considerably augmented, and occasionally there was an unpleasant desire to urinate, which interrupted sleep. The amount of albumen present was not affected. Later pains in the ears in consequence of an aural disease developed, and then hedonal became ineffective even in the increased dose of 45 grains. The action of the drug was manifested in about twenty-five minutes. No habituation or weakening of effect took place, since later, after the improvement of his condition, the patient slept as well after 15 grains.

Case 3. E. L., male, aged 37; *endarteritis cerebri saturnia*. This patient had been troubled for a long time with sleeplessness. After morphine and chloral hydrate sleep was restless and followed by headaches. Hedonal, 15 grains, was inefficient, but 30 grains produced a slight effect. Trional in 30 grains caused quiet sleep, but was followed by light headache and loss of appetite.

Case 4. J. D., male, aged 57; *commotio cerebri*. According to the statements of the nurse the patient slept well during the entire night after thirty grain doses of

hedonal, although he complained of having slept but little. Formerly he had always received a brandy punch, after which he claimed to have slept better.

Case 5. B. S., female; aged 46; pleuro-pneumonia. After the first administration of hedonal the patient was very restless, and did not fall asleep until the dose had been increased to 60 grains. On the following days 15 and 30 grains were ineffective. If violent delirium occurred at night the action of the drug failed even when given in the dose of 30 grains. Unpleasant by-effects were not noticed even from the large dose of 60 grains.

Case 6. Female 35 years old; floating kidney; infiltration at the apices. The patient complained of slight pains in the kidney region. Hedonal 15 grains in wafers proved ineffective. After 30 grains sleep occurred in the course of fifteen minutes. It was quiet and deep and only disturbed by pains over the kidneys. On one occasion a feeling of vertigo was experienced, but no nausea. Frequently, however, there were eructations, but very rarely a slight desire to urinate. The quantity of urine in general was usually not much increased. No other disturbances were complained of. The action of the drug became attenuated after a time. Trional produced a restless sleep, the patient feeling stupid and was troubled with dreams. An attempt was now made to discover whether the patient could dispense with hedonal, but as soon as it was discontinued she remained wakeful the entire night, and in consequence of the sleeplessness felt languid and drowsy the following day. No influence of the drug upon the blood pressure and frequency of respiration was observed.

Case 7. J. B., male, 25 years old; pyopneumothorax. The patient complained of pains in the chest with dyspnea and cough. He received at first injections of morphine until habituation ensued, and the effect remained absent. Hedonal was administered in the powder form, from 15 to 30 grains being given. These doses had a variable effect, the sleep lasting from a few hours to the entire night. The irritating cough had much influence in preventing and disturbing sleep. Morphine, which was later resumed dur-

ing the intervals, had the same effect as hedonal. After the administration of heroin the cough subsided, and the patient was able to sleep better, although the sleep was often restless. No habituation to hedonal could be discovered. With the exception of vomiting on one occasion no other disturbances were noticed. Diuresis was not increased, nor was there any material change in regard to temperature, pulse, frequency of respiration, and blood pressure.

Case 8. A. F., female, aged 19, endometritis. After the administration of 30 grains of hedonal sleep of six hours duration occurred, this being preceded by palpitation of the heart which soon subsided. She claimed, however, to be a sufferer from this trouble.

Case 9. M. K., male, aged 55; lead poisoning. In this case hedonal was given in 30 grain doses without satisfactory result. While sleep was restless there were no other disturbances.

Case 10. W. F., male, *polyarthritis rheumatica, pericarditis, pleuritis*. Hedonal in 30 grain doses produced sleep of five to ten hours' duration, which was frequently interrupted. Other disturbances were not noticed.

Case 11. F. K., male, aged 60; alcoholism. After the administration of 15 grains of hedonal sleep of four to five hours occurred. Increased doses gave no better results. Diuresis was said to be increased; unpleasant by-effects never occurred. The statements of the patient were, however, inaccurate and unreliable.

Case 12. B. S., female, aged 25 years; phthisis. The patient suffered from habitual insomnia. After injections of morphine she slept for about four hours. Hedonal in 30 grain doses caused a quiet and deep sleep of five to six hours' duration. By-effects never occurred.

Case 13. H. G., male, aged 20 years; multiple neuritis. No effect was obtained from 15 grain doses of hedonal, but after 30 grains, sleep of nine hours' duration ensued. The drug had no influence upon the blood pressure, temperature or pulse, nor were there any sequelæ. The quantity of urine was not increased.

Case 14. B. K., aged 41. Sleep occurred after 30 grains of hedonal, which lasted with short interruptions during the entire night. Aside from unpleasant eructations there were no other by-effects.

Case 15. F. B., aged 41 years; neurasthenia. After the first dose of 30 grains of hedonal the patient slept about five hours, with occasional interruptions. On the second administration he slept during the entire night, waking up only once. Without hedonal he was able to sleep only two or three hours.

Case 16. J. B., female, aged 28, failed to sleep after 30 grains of hedonal, and not even when morphine was added.

Case 17. M. S., tuberculous pneumonia. The patient complained of cough and pains in the chest in consequence of which she was unable to sleep. Hedonal produced a deep sleep of three hours' duration, while after the administration of heroin the sleep was prolonged over five to six hours, because of its pain-relieving properties.

Case 18. W. M., male, 25 years old, lead colic. Doses of 30 grains of hedonal administered on successive days proved ineffective. The patient complained of the bitter taste and refused to take the powder. No by-effects were observed.

Case 19. J. O., pulmonary phthisis. Hedonal of 30 grains produced sleep of five hours' duration, which occurred shortly after its administration. At the end of this time he slumbered with frequent intervals of wakening until the morning. No sequelæ.

Case 20. K. R., aged 77, cerebral apoplexy, emphysema. The patient had suffered for sometime with sleeplessness. After hedonal of 15 grains he slept with interruptions of five to six hours. No disturbances were experienced. The blood pressure showed no change. After sulphonal he claimed to have slept somewhat better.

Case 21. L. Z., aged 61: phthisis. After the administration of 15 grains of hedonal the patient slept for about

twelve hours, the sleep being restful and easy. No unpleasant sequelæ.

Case 22. A. P., female, aged 25 years; monarthritis. The patient was unable to sleep owing to a painful affection of the right hand. She therefore received an injection of morphine which gave her a good night's rest, but she complained on the following day of nausea and lassitude. Hedonal was now resorted to in the dose of 30 grains, and produced a quiet, deep sleep of seven to nine hours' duration, whenever the pains were not severe. In this case the effect, however, was not up to expectations. By-effects failed to occur, nor was there any weakening of the hypnotic influence. Diuresis was not increased. The temperature, respiration and circulation were not influenced.

Case 23. T. E., female, aged 30; *arthritis rheumatica*. The patient was unable to sleep on account of the pains. Previous to the use of hedonal morphine was employed, which produced sleep followed by lassitude and drowsiness on the next day. The same effect was observed from hedonal, as in the previous case. The drug was given in cinnamon water, in which form it was easily taken. There were no sequelæ as after morphine and sulphonal. No weakening of effect ensued, since after it was reduced from 30 to 15 grains the same result was obtained. No influence upon the organism was noted.

Case 24. I. H., male, aged 60; hypertrophy of the heart and chronic nephritis. The patient was troubled with dyspnea and pains in the chest and kidney region, and had suffered for some time from sleeplessness. After 15 grains of hedonal he claimed to have slept three hours, but his statements are unreliable.

Case 25. M. D., male, aged 26, lumbago. Hedonal, which was given in 30 grain doses on two occasions, produced a quiet sleep of eight to nine hours' duration in the course of ten minutes. No disturbances of any kind were present.

Case 26. J. A., male, aged 20; typhoid. After a dose of fifteen grains of hedonal the patient slept only one or two

hours. Trional and sulphonal proved equally inefficient. A dose of thirty grains caused a sleep of several hours' duration although restless. The drug was given in cinnamon water.

Case 27. Female, aged 43; peritonitis, tubercular infiltration of the apices. The patient received thirty grains of hedonal on several occasions, after which she slept for a number of hours. The effect was much delayed. She felt better for the sleep, but otherwise there was no influence upon the organism.

Case 28. F. T., male, had suffered for a long time with habitual sleeplessness, in consequence of which he was tired during the day and disinclined to work. The bromides, trional and sulphonal, had no satisfactory effect. After a single dose of fifteen grains of hedonal a sleep of ten hours' duration immediately occurred, which had a beneficial influence upon his subjective condition.

I myself took hedonal in the powder form on several occasions. The test was quite marked. Sleep occurred after about one-half hour and lasted until morning. I woke up very easily. Sequelae, such as drowsiness, nausea and the like were not observed.

As will be noticed from the records of the cases hedonal was administered irrespective of the character of the disease present. In discussing my results, I would refer to one great disadvantage, that frequently the statements of the patients are unreliable, owing to intentional prevarications or to insufficient observation, and in these cases more weight must be placed upon the statements of the nurses and attendants. Aside from these drawbacks it was found that in the larger number of cases hedonal proved a very serviceable hypnotic, especially if the occurrence of sleep was not prevented by pains. This is distinctly shown in several of the above cases of painful affections of the joints or troublesome pulmonary disease. As soon as the violence of the disturbances diminished, hedonal produced sleep that failed to occur if the drug was not given. Occasionally its influence was not manifested when other hypnotics, such as trional, sulphonal, chloral hydrate, and even morphine were

inefficient. Here it was administered commonly in doses of fifteen to thirty grains, and only exceptionally forty-five or sixty grains, either in the powder form or cinnamon water. Sometimes fifteen grains proved sufficient. Often, however, the dose had to be increased to thirty grains. We also repeatedly noticed failures, but among these were cases in which other hypnotics were equally ineffective. If the effect took place sleep usually resulted at the end of fifteen to thirty minutes; seldom later, and then persisted for a variable time. Its duration after doses of fifteen to thirty grains varied from a few hours to nine or ten. In general, sleep was quiet and refreshing, and only two patients complained of nightmares.

Serious by-effects were not noticed in any case, and with the exception of slight sequelae which were of no material significance, and perhaps were often due to accidental circumstances, hedonal was well tolerated, while the above named hypnotics, aside from the fact that they did not give the desired effect, were frequently followed with quite disagreeable consequences. Only one of the cases, No. 6, was there observed a transient feeling of vertigo. She also had an attack of syncope on one occasion upon leaving the bed after having taken hedonal, although she herself attributed this to her great weakness. She also complained of unpleasant eructations, which were also observed in case 14. In case number 7 vomiting was noticed, but this patient was troubled with an irritable cough, the more so as vomiting failed to occur on any other occasion. If stirred up with cinnamon water the drug does not cause these disturbances, and seems to be also better borne, while its action in this form is not weakened. In case 8 palpitation of the heart was noticed, but upon inquiry it was found that the patient suffered from this trouble. In one instance there was a slight nausea, which soon disappeared; otherwise no impairment of the appetite was observed. It may also be mentioned that in case 2 pains in the ears and flashes before the eyes occurred during the use of hedonal. The aural trouble, however, disappeared under appropriate treatment, although hedonal was

not discontinued, and did not recur, while the eye symptoms persisted even after the hedonal was no longer given. Other by-effects were not detected. According to the statements of the patients in the majority of cases they felt much better on the following day. When floated upon the surface of cinnamon water the drug was always easily taken.

Weakening of effect was observed in two cases in which hedonal had been administered for a long time. The sleep became less deep and quiet, and was also of shorter duration. These were the only cases in which this was noticed. On the other hand, I was frequently able to demonstrate that in some instances in which the first thirty grains were administered, the same result could later be obtained from fifteen grains. After an improvement of their condition the patients often slept then without any hypnotic.

As regards diuresis, I agree with those observers who believe that this is of marked degree only exceptionally, and in two of our cases this effect was most desirable. In other cases in which I had to content myself with the unreliable statements of the patients, the quantity of urine was at any rate not considerably increased. No injurious influence upon the kidneys could be determined. The quantity of albumen remained unaffected. The desire to urinate was, not in general, enough to interrupt sleep. Only in two instances were the patients frequently awakened, but fell asleep again at once.

The frequency of respirations and pulse remained entirely unaffected by the hypnotic. There was no change in the strength of the pulse. The temperature variations were the same as in physiological sleep. The blood pressure fluctuated so slightly that it cannot be said that hedonal had any influence in this direction.

On reviewing the results of my experiences I am led to conclude that hedonal can be added with advantage to the list of other hypnotics, although it will not always prove reliable. Its field of activity is especially to be restricted to those cases in which slight and uncomplicated

insomnia is present, and it should not be employed when the agrypnia is caused by marked cerebral excitement or violent pains. One of the great advantages of the drug over many others which act more reliably, is its almost complete innocuousness, which permits of its administration during long periods without the least risk, especially as regards the heart. A cumulative effect cannot be attributed to hedonal. Furthermore, it is a very useful succedaneum for other hypnotics when habituation or weakening of effect occurs, or their employment is directly contraindicated.

MEDICAL ASPECTS OF THE CZOLGOSZ CASE.

MEDICAL INQUIRY AND THE GUILLOTINE COM- MENDED FOR CAPITAL CRIME.—A PSY- CHOLOGICAL OPPORTUNITY LOST.

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"What the Jury want is light upon the dark points in the case before them."—Isaac Ray, *Medical Jurisprudence of Insanity*.

"The light of science and liberal knowledge—directly and clearly, without the intervention of refracting media."—*Ibid.*

"The criminal act itself is, in some instances, the only indication of insanity, the individual appearing rational."—*Ibid.*

"Law is like laudanum, it is easier to abuse it like a quack than to employ it like a physician."—Sir Walter Scott.

THE too summary judgment and execution of the degraded assassin of one of the best intentioned presidents since Washington or Lincoln, destroyed an excellent opportunity for studying thoroughly another psychological anomaly in the political history of our Republic, the third among the wretches who could deliberately murder an American president. Such characters are politically unique in American history. Regicides have aforetime had, in many instances, adequate provocation, but no adequate political cause has ever existed in this republic for the murder of an American Chief Executive. And when so strange, astounding, and normally inexplicable a deed as the assassination of an American president occurs, the psychologist, accustomed to search

out motives of mental action, would wish time and opportunity to study these anomalous characters who can without compunction and with self-laudation, stealthily kill the most benignant of men, standing for and executing the most beneficent of governments on the face of the earth. Czolgosz should have been kept alive, under durance and scientific psychological surveillance, as the botanist would keep a newly found exotic, until more might have been learned of his strange mental make-up, in order that our political future might profit by a better understanding of those anomalous integers and epochs of our anomalous present and recent past, when our presidents have been slain by citizens.

Of the three despicable creatures who have killed our presidents and of another who attempted the life of President Andrew Jackson and failed, three have been regarded as paranoiacs. What of the last one of these wretches?

Let justice be as sure and the penalty as swift as due regard for a knowledge of all of the facts, in similar cases tending to enlighten us as to the causes of such incomprehensible and reprehensible deeds in our fair free country, will permit. But in such cases medical and medico-psychological science have claims, to which reasonable time should be conceded, in order that the whole truth may be brought out to enlighten science, law and justice. In the first place, delay of execution should be sufficiently prolonged to elicit possible complicity and all possible incentives and to secure the life history, individual and ancestral, of these cranks. Absence of complicity or adequate motive point to insanity or its kindred states of imbecility, etc.; secondly, electrocution through the head imperils the value of an autopsy, having in view the question of mental disease or congenital defect. Thirdly, electrocution through the neck destroying the vagi or the cord only at junction with the medulla might be better for science, and ultimately for truth, the welfare of law and of the body politic. The guillotine would be still more scientific.

The final record, in this too hasty vengeance for the good of science, says that Czolgosz, the President's assassin

paid the penalty of the law for his crime at twelve and one-half minutes after seven a. m. of October 29th, ultimo, just forty-four days after the execrable crime and that he was shocked to death by 1,700 volts of electricity. The rush of the current threw his body so hard against the straps by which his head and body were held to the electrocution chair that the straps creaked perceptably, the hands clinched suddenly and the whole attitude of the body was one of extreme tension. For five seconds the full current was kept on, then slowly the current was reduced volt by volt until it was entirely cut off, then the shock was re-peated for two or three seconds. The relaxed body again stiffened as from the first shock and relaxed again upon its being turned off. A third shock of a few seconds caused the same rigidity, followed by relaxation, simultaneous with the shutting off of the current at 7:15 a. m. At 7:17 a.m. after satisfactory pulse and respiration tests on the part of the attending physicians, the prison warden pronounced the criminal deed.

The autopsy, as immediately performed by Doctors C. F. McDonald, E. A. Spitzka and prison physician Gerin, revealed to them the brain of Czolgosz as normal both microscopically and macroscopically, the cranium and other organs of the body likewise. The autopsy was completed within four hours after death. The remains of the murderer were buried and destroyed by means of a carboy of commercial sulphuric acid poured upon the body in the lowered coffin. Thus ended the legal retribution in oblivion and extinction of every physical vestige of our good President's dastard destroyer and even his clothing and effects were burned. And thus be ever the finality of all and every one who would essay even to strike the President of this Nation while in office with assassin intent.

When such bizarre crimes as this occur, however, so lacking in ordinary incentive, so motiveless to any right-minded American citizen, the medico-psychologist, accustomed to look for motives in all normal action, seeks to understand their cause or causes and to comprehend the factors of such a result, requires deliberate and painstaking

investigation. Was the crime of Czolgosz the product of anything in our civilization, was it the product of an anarchistic conspiracy or of newspaper suggestion, making crime too familiar and presidents too common to the vulgar mind, or of hypnotic suggestion, or did it result from a brain diseased or arrested in development?

An autopsy on a fresh brain made within a few hours after death has settled this last question, so far as such an autopsy can settle it. No disease of brain was found, yet there was disease there sufficient to kill, the result of the electric shock, if nothing else. That autopsy was made by good men and was the best possible under the circumstances of so brief an allotment of time for it. But that brain should have been given to science for more deliberate examination and undamaged molecularly by electrocution. It should have been put away in preservative fluid and its neurones examined after staining and with due deliberation, for the causes of death in them. The chromophile cells, their proliferations and connections, with time, might have revealed something to the knowing in cytology. But the secular press of the country, having no code of ethics, though needing one badly, on the subject of the treatment of the President's character and handling of crime, quite as much as the blatant-mouthed anarchists, having made the crime a possibility, concluded it was time to call a halt after the great sacrifice to the folly of making murder cheap and crime too familiar. It demanded that no more be said or the President's murderer and that he be speedily and silently disposed of and every vestige of him destroyed, and for once in this country, the public press had kept judiciously silent on the subject of murder. Speedy oblivion and obliquy to this murderer became its remorseful demand. The case is, therefore, ended and disposed of and we are yet in darkness as to the real cause of this unnatural crime. We only know that a part of the daily press which so much condemns medical men for their code of ethics, has proven by this sad affair to be sadly in need of a code of ethics concerning chief executives and the public discussion of capital crime. For crime, like

"Vice, is a monster of so frightful mien,
As to be hated needs but to be seen
Yet seen too oft; familiar with her face
We first endure, then pity, then embrace."

Yet the public press keeps familiarizing the people with crime, descanting on the courage of criminals on the scaffold going bravely with firm step or with stolid indifference to their doom, until these wretches have learned from them the familiar lesson that it is great to kill, and a virtue "to die game" for execrable crimes.

One psychological lesson to be learned from the assassination is that the public press needs a code of ethics to restrain it from making vice and crime too familiar and from clothing it as though it were a virtue, in verbal garb attractive, and merited commendation and not condemnation, and a clause in the code against slander, vilification and debasingly familiar discussion of the characters and motives of our Presidents. While this quotation was designed to teach a moral lesson and is clothed somewhat in poetic fancy and therefore not altogether truthful, there is a psychological element of truth in it. The woof is fancy but the warp is truth. Vice does not entice or sway usually as a repulsive monster, but when clothed in the attractive habiliments of beauty and seductive song and passion, as the Sirens were.

Nevertheless familiarity with crime breeds complaisance and acquiescent tolerance, and the mind automatically inclines, when its normal inhibitions are withdrawn or perverted as we see in many forms of insanity, to repeat and act out familiar impressions and to give active impulsion to thoughts and deeds it would, when well, have discountenanced and suppressed. Brain disease loosens moral restraint, not only in delirium but in disease far short of that. Those who are well may easiest be morally strong. This is a truth of psychology which cannot be refuted.

But what was the state of Czolgosz's mind? Legally sane of course, for it would be contrary to sound public policy to extenuate such crimes on the plea of insanity in any but the most flagrantly insane. But here was a weak,

mean, contemptible and commonplace young man twenty-one years of age, unaccustomed to mingle with men of affairs or mark, ignominious of birth and station and habitual thought and action, inspired by egotism not common to his station and the delusion of imaginary duty, seeking a president for a vicarious victim for the imaginary sins of the Republican party, and willing to give his own miserable insignificant life in order that this President might die and in order that he (this commonplace man) in morbid imagination, might serve the people of his class as their God of vengeance, whom that President had in no way wronged. "I killed the President," said he while in the chair about to be electrocuted, "because he was an enemy of the good people. I am not sorry for my crime, but I am awfully sorry that I could not see my father." Stoic resignation, indifference and delusion in the face of certain death, courting, rather than shunning, the death consequences of his crime as though it were a glorious martyrdom! No collusion, no instigation proved, but an abiding delusion of the President's responsibility for a condition that did not exist and which the President could not control if existing, and dominated by the egotistic delusion, the imperative conception, of his own mistaken duty to destroy that President. No hope of reward, death certain, no provision for, nor attempt at escape, no shunning of consequences, no disturbances of mental equanimity, no regrets for detection, arrest or confinement, no compunction of conscience for the crime, no loss of sleep, of appetite, no motive but an imaginary and ordinarily uncompensating one of vicarious vengeance. A complacency and self-satisfaction abides with the fool after the crime and death as one who, though execrated by the whole people for the most damnable of deeds, can calmly say "I am not sorry," "I have done right."

Where are we to look for the causes of the psychic phenomenon? Are they to be found in the genius of our own institutions? Have we retrograded to that? Or in defects of this man's brain? Would it not have been wiser to have given the subject a little more deliberation and

thorough study, both while living and after death and not to have destroyed the criminal brain? We think it would. The brains and bodies of all criminals should be bequeathed to antiropological science, for science thinks when the rest of the world is blind or sleeps, or paralyzes its reflecting powers with emotions of amazement or vengeance, or other excitations of the mind that embarrass true and calm ratiocination and conclusion.

Something is wrong in the mental make-up of this man. What is it? It is not moral degradation. Moral degradation knows not motives of charity. The mental movement of moral degradation is for personal gain to purse, passion, etc. Is it environment or heredity? Then the breed and environment should be inquired into and their causes eradicated, and all engendering influences removed. Such criminals and crimes cannot continue to exist and republics live.

Crank, or crazed, or criminal, these creatures are a menace to the welfare of the state. To summarily kill them in detail, as crimes are committed, is no adequate remedy. Neither does electrocution enlighten us as to the engendering and evolving causes of the murderous breed. The thoughtful psychologist would find the nests and destroy the eggs of the abnormal neurones that make up these abnormal magnicides.

Here is a man who murders with abnormal egoism, but without animosity and not from motive of ordinary benefit, or gain, such as moves normal criminals to crime, but from an extraordinary motive of charity for others and for whose crime, in the mistaken name of charity, he knew his life would certainly be forfeited. In short he gives his life for his friend, the working world, which he deludedly regarded as having been wronged by our good, unfortunate Chief Executive.

A sheriff may wisely execute the law, as he must, in lawful duty bound, but he cannot wisely decide all the questions involved in a case like this, nor can courts, without all the possible evidence. Carboys of vitriol obliterate the victim, but they do not solve the problem.

This magnicide must take his place, in the minds of psychologists, with Guiteau, Passanante, Bresci, and other historic regicides, for the deliberated study and verdict of psychological anthropology. It is a pity that science should be crippled in her honest endeavors after truth by the too hasty executions of these mental anomalies among civilized mankind. It were better for the governments concerned, for science and for the world, that haste to execute vengeance should wait on scientific deliberation in these cases. They are morally and politically unique, and out of harmony with liberal modern governments regulated by law, and aiming at Justice. It were better that in the lawful punishment of these peculiar criminals, the guillotine should substitute electrocution. No trace of microscopic truth, that might illuminate the honest researches of science, should be effaced from the brains of criminals executed for capital crime. They should all be examined, as a debt crime owes to the state, and with spinal cocainization they might profit science by being examined *ante-mortem*, without barbarity.

In the calm afterthought of this world-startling tragedy, though we are yet bowed and stricken in the shadow of its overmastering sorrow, let us resurvey the astounding drama and calmly as we may seek to fathom its deep or uncover its shallow meaning, deep if the culmination of a collective design, shallow if but the product of an individual conception.

A benignant, virtuous, revered, truth and duty tried and proven, people's President is stricken, not with personal malice aforethought, in the ordinary sense of that word, not stealthily in the stillness, seclusion and security of the night time nor in some sequestered spot, but openly in the full light of day in the midst of the victim's admiring, honoring thousands, each and all ready to prevent or avenge the deed, and who would have stayed the assassin's hand, but for the covert unexpected shot. This deed of blood is done without personal malice or vengeance, without chance of escape, without incentive to anger, without hope of reward or other personal gain, without excitement or any of the ordinary

motives that move to passion or to crime, without proven confederates and disclaiming and without accomplices. Indifferent, calm, daring, reckless, hopeless of benefit or safety to self in any way, solicitous only that the fatal missive might fail to prove fatal to his victim and satisfied at the denouement of death to his victim, this man of mean station, insignificant birth, humble and low in remote as well as immediate heredity and in social affiliation, lowly and unconnected with men of high political motives, erratic and unsteady in occupation, irascible and unregulated in conduct, from youth up not consorting with criminals and without vicious criminal record, and with facial and cranial contour commonplace and degenerate in aspect, this personified insignificance emerges from obscurity and startles the world as the chief actor in a tragedy whose victim is among the first and greatest of the earth in character and station. He perpetrates in full public view, environed so that escape is impossible and without attempt at concealment, but glorying in the awful deed, for the like of which men have aforetime been rent asunder, a crime, judged from the ordinary standpoint of personal risk, of the utmost daring, a crime which, if it had proceeded from a conspiracy of numbers, would be of untold significance to our country's welfare, a crime whose only motive seems to have been founded in delusion and a significant and fatal egoism and to prove, in his death, his devotion to the delusion that he, of all others, was the one on whom devolved the duty of murdering the President and sacrificing himself.

Gloomy, almost silent and resigned, as though his despicable act were a virtuous deed, submissively like a martyr, but without a martyr's cause, he pays the inadequate penalty of his egoistic delusioned life, for taking the life of one so exalted and so good that battalioned patriots would have gladly gone to heroic death in battle array, that he might have lived. His miserable career was cut short, cut too short for pure vengeance or justice, if the latter could be requited in that way, for the destruction of such a valued life, cut too short and too completely obliterated for the interests of that great psychological science which would search out and find, if

possible, the cause of these psychic monsters that murder great men without provocation, men who are exalted and good, benignant and beneficent to their race and kind. The full light of psychological and psycho-anatomical and physiological science should have been thrown upon this magnicide, living and dead, for the benefit of future jurisprudence and for the good of this fair land, where brains rightly endowed, rightly organized, with minds working through them rightly, do not compass the death of our Presidents.

It is not seemly that learned lawyers appointed by the court to defend such criminals should apologize for the part they take and join in the furor of passion for hasty execution, while there yet remained possible facts to have been elicited, scientific and otherwise, in explanation of this as yet inexplicable, unimpassioned, unsoundly minded murder of an American President. There was a woman in the case, and a marked element of evil psychic suggestion, revealed in the later conduct and final act of Czolgosz, and in his reticent speech from time to time, which might have been brought out more fully, had the inquiry been more prolonged and conducted on broader lines of medical inquiry.

Something more should be sought in legal inquests into supposed crime than mere technical legal guilt or innocence. This opportunity too was lost by the too speedily or too rapidly concluded trial and execution.

Czolgosz's egoism was unbounded and morbid. His mind was evidently weak and he appeared as a mental tool of wrong teaching, environment and influence. Unbounded egoism, projecting self into unnatural spheres and phases of action out of normal harmony with environment, is a characteristic of insanity and it was sufficiently prominent in the case of this murderer, to have justified more extensive inquiry into the mental make-up of this strange assassin.

Let me close this essay of suggestion, (for absolute, positive conclusions cannot be formed without more definite data than the trial afforded, as to the true mental status of Czolgosz), by a few quotations from that Corypheus of medico-legal observers, who did so much in his day to

infuse justice and scientific truth into causes, where, before the law, the question of mental defect or insanity was involved. "Much of the unwillingness manifested by jurors," (and I may here add judges) "to abide by the result to which the above distinctions (criminal and insane homicides) would necessarily lead them, arises from the feelings of horror and indignation excited by the perpetration of cold-blooded murders, which incapacitate them for discriminating with their usual acuteness between the various causes and motives of human action."—I. Ray, § 260. Isaac Ray had traversed the "dark and bloody" ground we have gone over, many years before us.

Here is another apt quotation from his experience: "Notwithstanding the great similarity, for the most part, between these cases, (criminal and insane homicide) one will occasionally occur where, from defect of information no little knowledge of insanity and of human nature is required to find one's way through the mists of doubt and obscurity in which it is involved." What a pity for psychological science, medical jurisprudence and the cause of true patriotism, that the possible medical aspects of this *cas celebre* were not diligently inquired into. There was some sort of mental defect in the stolid, reticent wretch who killed the President, expecting popular applause for the dastard deed.

Was there moral or mental defect, teratological degeneracy or disease of the brain or nervous system, not revealed in the imperatively hasty autopsy? We shall never know. As a contribution to science the trial was in this regard a miscarriage.

The lamented President and his detested murderer are dead and only darkness reigns where light might have shone. We have the horror and the sorrow of the awful tragedy, but are still inquiring for the why. Another magnicide has gone the final way of all flesh and we know no more than before of the mysterious mental make of these marvels of psychology, among a free people and in a fair government.

The alienist and neurologist would have sought more light on the health of this anomalous murderer and the causes of his singular conduct, but they will seek in vain in the records of his trial, and here again the plaintive plea of Isaac Ray in reference to similar cases in history "must give us pause" that we may reflect. "The absence of particulars in some of the cases we find recorded," (he says, referring to particulars as to bodily health affecting the mind, and developing the incubative stage of insanity,) "leaves us in doubt, how general this change really is; but a careful examination would no doubt, often, if not always, show its existence."—§ 257.

Thus another case goes into history imperfectly developed in its medico-scientific, medico-legal aspects, because of the clamorous public demand for speedy vengeance. Blinded by the vengeful clamour and the righteous indignation of a personally stricken people, we are left sitting in the dark, still wondering how such a deed could have been done, by a man in his sound and sober senses, in Fair and Free America, and appalled at the possibility of a sane man murdering an American President.

Prima facie, the man who under all the circumstances thus far brought to light in the Czolgosz trial, would murder or attempt to murder an American President, cannot be mentally sound or naturally normal in mind, even as a criminal, and there are some minds so constituted that they would wish to know more of the causes which could culminate in so terrible and unnatural a tragedy in this country, at such a time in our glorious political history, at such a place, and with such a man for its victim, and such an anachronistic psychic anomaly in crime for its despised chief actor. Legal tribunals, in such momentous causes, should seek to reach something more than conviction or acquittal. They should search for all possibly to be acquired truth of science pertaining to such singular cases.

Law should concern itself, not alone with the question of complete or non-responsibility, but with degrees of responsibility and considerations of public safety. There are terato-

logical mental defectives incapable of living in harmony with the lawful regulations and duties of free and equal government whose organic mental misadaptability should be understood. Such persons should be sequestered and supervised and denied the franchise or any part in government. They are more dangerous to society, if allowed the freedom and privileges of rational citizens, than the ordinary criminal or lunatic who is now executed or secluded from lawfully organized society, and all social and law-regulated political life. Among its new acquisitions the United States should establish a colony for cranks and sequester and supervise them there, as Belgium does her lunatic colony at Gheel.

LEON F. CZOLGOSZ.

A DESCRIPTIVE ANALYSIS ON THE BASIS OF THE BERTILLON SYSTEM OF IDENTIFICATION.

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THE Bertillon system of criminal identification furnishes us with tolerably accurate measurements of the cranial and physical configuration of Leon F. Czolgosz, the assassin of President McKinley, which, in the absence of more specific anatomical criteria gives us a fairly satisfactory idea from external indicia of the internal man—at least as far as such criteria can go. The endorsements upon the identification card and his photograph, are given in detail below:



Height of body, 1 metre, 71.8 m. (Continental Method)

5 feet, $7\frac{5}{8}$ inches). Outstretched arms, 1 metre, 19 m. Trunk, 90.9 m. Length of foot, 26.1 m.; middle finger, 11.7 m.; little finger, 9.1 m. Length of forearm, 47.3 m. Weight, 138 pounds. Build, medium; hair, brown; eyes, blue. Cranial configuration—Head length, 19.7 m.; head width, 15.6 m. Length of ear, 6.4 m.

Foremost in the degree of importance with reference to external conformation as indicative of the criminal characterization stands cranial asymmetry, whose peculiarities however, present themselves to some extent to the post mortem alone and hence lie outside the scope of the present paper. Broadly stated, it may be said the cephalic index as a generic classification into the three orders of the—dolichocephalic, (smaller than 77); mesocephalic (ranging from 77.7 to 79.9) and brachycephalic (from 80 to 90) together with their sub-heads, represent the several cranial forms that give us prevailing orders, from which taking 100 as the longitudinal base line, and 80 for mean breadth, the above variations are formulated. The oceanic races, with the Esquimo and Afrancoid head are usually taken as illustrative of the dolichocephalic; while the Mongolian (Tartar), 88+ and the Indian 80+, represent the round-headed (brachycephalic); the mesocephalic, or medium, standing for the Caucasian or head of civilization.

The brachycephalic head is designated predominantly the criminal head. Thus, the Cephalic Index in revelation of criminalistic tendencies gave out of 394 thieves 74 dolichocephali, 129 mesocephali and 191 brachycephali; among homicides, 21 were dolichocephali, 31 mesocephali and 54 brachycephali; out of 92 sexual offenders 18 were dolichocephali, 30 mesocephali and 38 brachycephali, and out of 54 swindlers, 19 were dolichocephali, 15 mesocephali and 30 brachycephali. Out of 697 criminal heads from the Bertillon system as furnished by this prison (San Quentin), 1 found out of 44 murderers (26 executed) the average cephalic index gave us 83.51 (brachycephalic); 120 robbers, cephalic index 80.52 (brachycephalic); 250 recidivists (pronounced criminals—2nd offenders) 79.05 cephalic index 80.42 (brachycephalic), and 32 erotics (sexual offenders) (meso-

cephalic) thus apparently graduating from mesocephalic into brachycephalic in proportion to the relatively pronounced criminalistic tendency, the cephalic index of the homicidally inclined being larger than that of the recidivist by a fraction over 3 mm. To the brachycephalic belong all the lower order of races, such as the Mongolian (88+ pure brachycephalic) and the American Indian (80+). The cephalic index of Czolgosz is 83.4—well advanced under the brachycephalic type. A frontal view (without possessing actual measurements) would place the architectural form of the skull (without regard to lateral view) within the type designated as the “pyramidal (Prichard) skull,” or technically termed “oxycephalic” (sugar loaf), a form which Dr. Von Hölder attributes to the contemporaneous premature closing of the sutures at the expense of width, and which is designated by Lombroso as the ideal criminal head, his tables crediting 7.5 per cent of criminals with this form of cranial structure as against 2 per cent. of normals. Benedict attributes it to a defective organization. As has been well said this form of skull tends to a peculiarly satanic appearance of the head. The anterior and posterior portions do not present these features however in so marked degree. It is quite marked from a frontal view of the head of the assassin.

The facial angle (usually employed to determine the relative superiority of the frontal over the posterior brain mass) as determined by the angle formed by the intersection of a base line running horizontally from the base of the nose, through the opening of the ear and a line drawn perpendicularly from the glabella to the front of the upper jaw, in this case marks no deviation from that usually accredited to the Caucasian (according to Camper) 80 as against the American Indian, 73°, and the African 70°. The peculiar inclination of the head in the photograph renders accuracy difficult. The immense preponderance of the medium occipitalic and cerebec region is manifest, a marked characteristic of the criminal skull and indicative of undue thickness of the occipital fossa which Lombroso associates with the pronounced criminal. It is taken in

connection with the retreating forehead and exaggerated superciliary ridges, the latter quite marked in this case, and which may be exaggerated by the unusually coarse and heavy eyebrows. Orbital capacity (another ensignia of the criminal) is large. The zygomatic process and corresponding width of face is extremely marked. It is likewise the ethnic distinction of the American Indian, the Tartar, the Esquimo, and indeed all primitive races. A most remarkable asymmetry, however, is presented in the three-fold division measuring from the roots of the hair on the forehead to glabella; from the latter point to the base of the nose, and from that point to the apex of the chin, all of which in the symmetrical face should be equal—in this instance the lower division exceeding the first by nearly once again its length, and the second division by a considerable fraction. This is indicative of a correspondingly large or prognathic sub-maxillary or lower jaw, with a corresponding breadth of face from the angles. This is the characteristic of the Oceanic, African and Esquimo races, as well as the criminal ensignia. Manouvrier accredited the average Parisian jaw with about 80 grammes, murderers, about 94 grammes. Large jaws obtain in normals at the rate of about 29 per cent., in criminals 37 per cent. Qutrefuges assigned the cause to atavistic tendencies. The Gorilla is prognathic, with a facial angle of abous 61° . The African, ditto, facial angle, 70° . The chin in this subject is somewhat retreating. Ear large and voluminous, though symmetrical. Lombroso accredits large ears to recalcitrants at the rate of 28 per cent as against 6 per cent normals. Out of 600 criminals and 200 normals, Ottolenghi found 20 per cent. of the latter and 39 per cent. of the former possessed large ears.

Psychologically, the mental and moral phenomena that usually make up the characterization of pronounced malefactors are all present. The absence of all noble sentiments of morality and humanity, (or, if such be present their subversion at the dictates of a perverted theory or retaliatory passion), the lack of all sense of responsibility, the absence of remorse after the commission of the offense

and of the real heinousness of the same before committal, an instinctively self-sought criminalistic environment together with false notions of right make up the psychological equipment of all great offenders.

The characterization of Czolgosz may be summed up as a whole in the words: *Immature, primitive, atavistic*. His personality was unmistakable. The moral potentialities of his character only awaited the touch of opportunity to bring into action. He was a predestined criminal—a mental and moral degenerate whose etiology is lost in the intricate and insoluble mysteries that characterize nature's moods under the sway of hereditary law and reversion to type.

In attestation of the harmony and completeness of the physiological and anatomical make-up of the above, a post-mortem should reveal (*a*) an unduly thick cranium, especially in the region of the occiput, and the superciliary ridges; (*b*) an excess of Wormian (floating) bones; (*c*) possibly imperfectly closed sutures, or (*d*) the closing of the sagittal suture making the cranium narrow and high (pyramidal); (*e*) brain, light: (*f*) few and shallow convolutions; (*g*) thinness of pia mater; (*h*) the existence of confluent fissures in the brain. There may however be marked deviations from these as is the case in nearly all such instances; post-mortems in France, for instance, giving the worst class of criminals a weight of 55 to 60 ounces, Ruloff 59 ounces, Hallam 52 ounces, etc., as against the normal brain weight of 49 ounces. A consistent criminal, physiologically as well as psychologically, is the exception not the rule. The ideal is rarely realized in fact.

CONSCIOUSNESS AND THE NEURAL STRUCTURE—A PHYSIO-PSYCHICAL REVIEW.

By JAMES G. KIERNAN, M. D.,

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FOR a long time, remarks Dr. L. F. Barker, (*Amer. Journal of Insanity*,) scientists and philosophers have been deeply interested in the relation between the neural structure and consciousness—between anatomy and psychology. The views vary all the way from the optimistic height of those who maintain that the mysteries of consciousness will be solved entirely by anatomic studies to the pessimistic abyss in which those reside who deny any possible relation between anatomical structure and psychic function or who admitting the possibility of a relation are sure that it lies beyond the limit of recognition by the human intelligence. A great many have found if not satisfaction at least crumbs of comfort in the doctrine of psychophysiological parallelism of Wundt. Others with Mach evade the question by denying that contrasts exist between bodily and psychic processes. The monists following Haeckel assume that consciousness in greater or less degree pertains to all living matter. They base their assumption upon what they consider evidence of a “scale of consciousness” in the whole animal series. Great advances are being made however by comparative physiologists who insist that the whole conduct of life of animals which do not possess a cerebral cortex is explicable upon purely anatomic and mechanic chemic basis without need of assumption of a psyche.

The animal is studied as a machine in order to determine its capacities through the simple anatomic substructure which it possesses. Much of the behavior of lower animals which at first sight appears to result from free-will, can be satisfactorily accounted for as the direct resultant of chemic and physical forces upon an anatomical mechanism. A given stimulus applied under given circumstances produces a definite result with certainty of a chemic reaction. Chemotaxis, as studied by Pfeffer and of the trophisms investigated by Loeb, Engelmann and others, have opened wide the effects of light, heat, electricity, gravity, etc., upon protoplasm. Loeb's researches have taught that animals through application of certain stimuli by virtue of trophistic reactions behave in a distinctly non-purposeful manner, or even do things utterly incompatible with continuance of existence. If food be brought into contact with an animal the mouth is set into motion and an attempt made to swallow the food. If a bee's head be cut off it will still suck up honey, though this cannot reach the body from which the head has been separated. Certain stimuli applied to the head of the planarian cause the animal to creep forward. In an animal with two heads (artificially produced), Loeb found that the tendency to the forward movement of each was so great that the trunk was often torn in two. Many a boy has found out to his sorrow that a wasp can sting if the hind end of the body be stimulated even after the wasp has been decapitated. The sting as Edinger emphasizes is the result of a known stimulus not of anger, revenge or other psychic cause. The experiments of Bethe on the crab, of Loeb upon worms and of Von Uexkull upon various forms are interesting in this connection. Many processes which involve what is called memory, a capacity for education and complex associations, probably go on in animals in which the existence of consciousness has not been proven and in which many believe it does not exist. Many of the so-called instincts would fall in this group. Even in man where consciousness does play a most important part there are processes of a high degree of complexity which are carried on below the

threshold of consciousness, for example the circulatory and respiratory activities and the movements of the walls of the alimentary canal. Childbirth has occurred in natural manner in a woman with transverse lesion of the spinal cord. Indeed it seems likely that all or nearly all of the functions mediated by the human spinal cord, medulla, and pons are subconscious. Especially illuminating is the explanation of the behavior of frogs in spring-time. It is a matter of common knowledge that in the spring the male frog grasps the female in a tenacious sexual embrace. "No power can separate these lovers; a beautiful example to human beings—they prefer to permit themselves to be cut in pieces rather than let go the loved one." Goltz proved that at this period skin of the female (alive or dead) or even of dead male when stuffed with the ovaries of females set free this "embrace reflex" as soon as brought into contact with the inner side of the frog's foot. The frog can be cut into pieces but so long as the cervical cord, the fore legs and the connection of the latter with the former remain uninjured the embrace remains firm and there is no relaxation.

Dr. Barker illustrates the strange tendency of subsidized universities to ignore American researches. Dr. W. A. Hammond in an address delivered before the New York Neurological Society twenty-five years ago (*Journal of Nervous and Mental Disease*, January, 1876) concluded as follows: That of the mental faculties, perception and volition are seated in the spinal cord, as well as in the cerebral ganglia. That the cord is not probably capable of originating mental influence independently of sensorial impressions, a condition of the brain also, till it has accumulated facts through the operation of the senses. That as memory is not an attribute of the mental influence evolved by the spinal cord, it requires, unlike the brain, a new impression in order that the mental force may be produced. Dr. T. Edwards Clark, discussing Dr. Hammond's address, pointed out that most biologists who had closely studied the lowest forms of life were of the opinion that mental characteristics occur in animals before even the first traces of a nervous

system appear. The amoeba which is but little more than a gelatinous aggregation of granules having no tissue structure is evidently influenced in its movements by perception, judgment and volition. These mental peculiarities in such a structureless being cannot be supposed to be limited to any particular part of the animal. Higher in evolution a nervous system is met with, still the mind force seems to have its seat in no one center of the organism. In some worms there is a double nervous cord without ganglia or enlargements of any kind extending from one end of the body to the other. These animals are capable of spontaneous division and subdivision of the body and consequently of the mind—several smaller individuals appearing as the results of these acts. The other worms have a double chain of ganglia in place of the single cord with the mouth at one end of the body and the eyes at the other; each organ reporting to the ganglia in its immediate neighborhood. When the vegetables are reached structural peculiarities are found which lead to the inference that mind-force working through them is not seated exclusively in the anterior or posterior part of the body. In the amphioxus the spinal cord terminates at either end without enlargement; it has no ganglia and whatever may be the seat of the mind of the higher vertebrates biologists are in no position to locate this force or limit it to any particular part of the dorsal cord in this little fish. Dr. Clark cited these instances to show what may be inferred from structure. The same mode of argument must apply to man and the higher vertebrates. Dr. Hammond would limit mind-force to the gray matter of the cerebro-spinal system. But why stop here? The sympathetic method of action of nerve fibres cannot be distinguished from those of the cerebro-spinal system. Its cells have essentially the function of the cells of the cerebro-spinal axis. Experiments do not compel exclusion of mind from the ganglia of the sympathetic system. May it not be true of man as it appears to be of the lowest forms of life that the mind pervades the whole body?

The error made by the majority of the authorities quoted is that of assuming that man is an entity and not a

compound animal. Man is a collection of organisms like the amoeba whose acquired potentialities have been surrendered for the benefit of the organism as a whole. Thus the ganglia have merely local functions controlled by the spinal cord and it in turn is controlled by the brain. The functions once performed by the ganglia and later in evolution by the spinal cord have been largely surrendered to the brain. Many actions first originating in the brain and performed consciously are later transferred to the lower centers and performed unconsciously. This was excellently illustrated by Dr. R. L. Parsons in the discussion of Dr. Hammond's address, who pointed out that man often walks or plays the piano or performs other acts seeming to require the exercise of reason while really unconscious of the acts performed. At first these complicated and difficult actions are performed only under the strictest exercise of attention, of thought and of will; the higher centers of the hemispheric ganglia, direct the actions of the muscles through the medium of the lower centers. With each repetition of these actions however, less and less of thought and of volition is required. The spinal centers become so habituated finally to such a sequence of activity that they may act in a regular order, when only the initial stimulus is applied whether the stimulus comes from the brain or from the distal extremities of the spinal nerves. A man wills to perform a particular act, the lower centers get the orders and these orders are carried into effect, although the brain in the meantime may have become wholly engrossed in some other activity or while the brain is wholly engrossed in thought, the lower centers are affected by some external cause that fails to arouse the attention. The spinal centers respond under this excitement which fails to reach the brain at all. The same muscular actions are put forth automatically and without the supervention of consciousness in regard to the actions that have ordinarily been put forth under a similar excitation.

From production of states of subliminal consciousness in this manner it results as pointed out by Ribot, that the *ego* is a co-ordination. It oscillates between two extreme

points, imperfect unity and absolute incoordination, else it ceases to be, and all the intermediate degrees exemplified without any line of demarcation between normal and abnormal, health and disease; the one trenching upon the other. Wherefore the *ego* in the psychologic sense is the cohesion for a given time of a certain number of clear states of consciousness, accompanied by others less clear and by a multitude of physiologic states, which though unaccompanied consciousness are not less but even more effective than the conscious states. Upon this gradual, and it may be well said altruistic, surrender of their functions by the organs to the central nervous system, turns the balance which constitutes human consciousness. An attempt to resume their functions by the organs produces the various mental disturbances. In most marked types these disturbances of the *ego* are best seen in epilepsy where mental atrophies and hypertrophies occur which disturb the balance constituting consciousness.

SCIENCE AND "CHRISTIAN SCIENCE."

By PAUL PAQUIN, M. D.,
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SCIENCE is defined by logic as—"a complement of cognitions, having in point of form the character of logical perfection, and in point of matter, the character of real truth."

Science is *applied*, or *pure*.

"Applied science is a knowledge of facts, events or phenomena as explained, accounted for, or produced by means of powers, causes or laws. *Pure science* is the knowledge of these powers, causes or laws considered apart or as pure from all applications."

In these quotations we have the universally accepted definitions of science and its two divisions. All other correct definitions are based on the principles enunciated in these and within their scope. We must, therefore, rely upon them as the logical gist of trustworthy investigation and experience and intellectual human experience of all the ages to this day. From this standard we must judge all the doctrines, ideas, dogmas, declarations, discoveries, etc., that are classified as scientific or that are incidentally held up as such.

Perhaps the most remarkable claim to recognition as a science that has ever been promulgated in the world, is the peculiar mixture of doctrines launched forth some thirty years ago under the fascinating designation of "Christian Science." It has been declared that for reasoning on it, it would seem unwarrantable to bring before them a discussion to refute the preposterousness of Christian Science dreams;

yet there are a great many with reputed intellects who boldly espouse the cause of this comparatively new sect and seem to believe its contradictory and inconsistent teachings, and so it is reasonable to investigate the question.

The first proposition to determine is the claim of "Christian Science" to the title of Science. On page 7, "Science and Health with Key to the Scriptures," Mrs. Mary Baker C. Eddy (at various other times it is alleged, Mrs. Mary Morse, Baker, Glover, Patterson, Eddy, for the spiritual Mary is said to have been a much married bit of corporeal matter) lays down the following fundamental principles of "Christian Science":

"God is all."

"God is good. God is mind."

"God's spirit being all, nothing is matter."

"Life, God, Omnipotent, Good, deny death, evil, sin and disease."

This is a gymnastic set of phrases that dazzles one like:

"Punch with a punch and punch with care,
Punch in the presence of the passenger."

Particularly if you repeat it fast forward or backward, but is it scientific? Does it show "a complement of cognitions having, in point of form, the character of logical perfection and, in point of matter, the character of real truth?" Is the affirmation that "Life, God, Omnipotent, Good, deny death, evil, sin, disease" based on a "knowledge of facts, events or phenomena"; or does it show "a knowledge of the powers, causes or laws" that underlie it? Nothing of the kind. Not even to Mrs. Mary Morse Baker Glover Patterson Eddy's mortal and spiritual minds combined can it be anything but a mere declaration. It is absolutely unsupported as a scientific claim. It is a negation and can have no more right to be called a science than a lie. There cannot be science of facts known to the senses by which alone human nature, including Mrs. Eddy, can perceive of form concepts.

The second proposition to determine is the claim of "Christian Science" to the title of Christian. I had intended to ignore any seeming encroachment on the theological questions but I find reference to Christianity necessary for my purpose. The Bible is admitted even by Mrs. Eddy to be the authority by which to determine what are Christian doctrines. And here is one New Testament test for determining the reality of flesh and "whether a spirit be of God." I John iv, 3: "Every spirit that confesseth not that Jesus Christ is come in the flesh is not of God; and this is that spirit of anti-Christ, whereof ye have heard that it should come." To deny, as Mrs. Eddy does, that there is flesh is to deny that Christ came in the flesh, which at once answers the question of the right of "Christian Science" to be called Christian. Indeed this New Testament quotation rather indicates that her doctrine is from that "spirit of anti-Christ whereof ye have heard." Again Christ said, "Handle me and see; a spirit hath not flesh and bone as ye see me have," which shows that He specified the existence of material flesh. Another point of difference between Christ's teachings and those of Mrs. Eddy's "Christian Science" allegations is evidenced in the following: Jesus demanded faith; he made it a requisite of Christianity and of his miraculous cures. "Have faith in God," he commanded, and in speaking to the man at his feet whom he had cured of leprosy, he said, "Arise; go thy way; thy faith hath made thee whole." Mrs. Eddy disparages faith as antagonistic to her so-called "understanding" by which she alleges to produce wonders. Is this Eddy teaching Christian or anti-Christian? It is certainly at variance with Christ's teachings.

But that is of little moment compared to her allegations of Christ's poor mental calibre. "Had wisdom characterized all the sayings of Jesus," she exclaims, "he would not have prophesied his own death and thereby hastened his own death." There is something inspiring in this dogmatic criticism of Jesus by a mere woman of the twentieth century. It sounds so reverential and so much as the word of a saint with power! And yet, "Christian Science" people

believe this saying as the holy word of a revised female edition of the divine power. Whoever doubts has only to look further. Consider, for instance, this woman's Christ-like virtue and modesty as exemplified in her shrinking from public gaze. When thousands of her worshipers approached her on her lawn recently she appeared just a few minutes on the upper balcony; then again a few minutes, and then a third time an instant on the lower balcony or veranda whence she threw kisses at the multitude and hastily entered a closed carriage alone. This carriage was drawn by "spanking horses" and mounted by a coachman and footman with "high silk hats." At the crack of the whip the splendid pair launched themselves swiftly on and the saintly idol within the box disappeared (in the manner of the veriest sport going to the races).

It is asserted that Mrs. Eddy has bewitched a million people. Putting herself apart from the rest of human nature and exalting herself above it, we are told that she assumes a throne in a distinctly ethereal world, from which she alleges that she is wholly guided in her conceptions, thoughts and actions by a God-given spiritual force, which she declares to be the only force and the only real thing in the universe. From that imaginary sphere she sends forth through her material head and on material paper and for material money edicts and preachments declaring the non-existence of material things. If reasonable persons deny merit to her claim she declares that it is simply because they cannot understand or because human language is inadequate to explain her transcendent ideas.

If "Christian Science" is neither Christianity or Science perhaps it is some new and wonderful revelation from God to man that will disprove the statement of Solomon that there is nothing new under the sun.

Let us explain the question of originality.

Mrs. Eddy's idea of the *all* was exploited long before Christ by a pagan sect. It is the revival of the perverted Monism of ancient India, *i. e.*, pantism (not pantheism) which ascribes reality to the conception of the Absolute of the All, and declares that "concrete existence is a mere

sham, an illusion, a dream." Nor is Mrs. Eddy's failure to distinguish good from evil new. In the polytheism of "popular Hinduism" worshipping the *One and All* "discrimination between good and evil is entirely lost sight of."

In her scientific (?) definition of mind—mortal and immortal—and in her writings generally, Mrs. Eddy lays great stress on the understanding and forces which she guarantees to be omnipotent and that by that "understanding" the most wonderful miracles can be accomplished. This "understanding" is put forth as a cardinal point, a new and necessary idea in her religion—her alleged Christian religion. Yet it is one of the oldest ideas of Buddhism.* It was enunciated by Guatama (afterwards Buddha) who, in the sixth century, B. C. (like Mrs. Eddy now) "claimed to be the enlightened One," and who was afterwards himself idolatrously worshipped by his followers as Mrs. Eddy is getting to be by hers. He was then striving to revolutionize Brahmanism. In his efforts he encouraged the evil ones, Mara and Namuche, who tempted him and sought to arrest his progress. But he answered in the language of Mrs. Eddy, "I have * * * power, and understanding is found in me." When the evil ones sounded the war-cry and drew out for battle to defeat Buddha, Mara on his elephant approached him with his army and Buddha said: "Here is this multitude exerting all their strength against me alone * * * but I have these ten perfections * * * it therefore behooves me to make these ten perfections my shield and my sword * * * and destroy this strong array." And he remained sitting and reflected on the ten perfections.

How similar this pagan folly of antiquity to the new folly of a modern Christian woman with her perfections. What can we say of the mind of a would-be Christian leader whose Christian conceptions are those of musty idolatry? Nor is Mrs. Eddy the first to revive these buried notions. Berkley attempted to prove the non-existence of matter and failed. He provoked much discussion among the thinkers of his time and had some followers, but sanity

*History of the Devil, Paul Carus.

prevailed. Nor was she altogether original in endowing these resuscitated ideas with commercial value. She constructed her medical church largely on the foundation laid by Professor Quimby of Maine by whom she had been treated when sick.

THE CURES OF "CHRISTIAN SCIENCE."

The great drawing card for the "Christian Science" sect is its alleged marvelous ability to cure disease. Tumors might weigh a ton and be as hard as granite and be made to melt away by merely reading Mrs. Mary Morse Patterson Eddy's \$3.18 book and thinking hard at the tumor. Bones and joints may be as rotten as in leprosy, pieces sloughed away, and a "Christian Scientist" healer, if approved by Mrs. Eddy, may restore the material loss. Lungs may be as full of cavities as a coarse sponge or may have been partly spat out in pus and Mrs. Eddy's "Christian Science" doctors will think the holes full of new, normal tissue, thus returning to their places the lost substances. There is no use now for cork arms, wooden legs, glass eyes, false teeth or wigs. Spiritual Mary Eddy (mother of nobody) and her healers are all ready and anxious to restore those organs in their natural state. You may go to war and feel easy if the government will only adopt a "Christian Science" medical corps or permit absent treatment of the sick and wounded soldiers far away fighting for their country. What a saving of life, grief and blood to this nation if the President would only permit Mrs. Eddy to follow the logical conclusions of her doctrines in the American army!

Not only this. Dogs and horses, hogs, cattle and cats and other animals, which Mrs. Eddy does not especially endow with God's spiritual soul and mind through which she claims to perform cures, are nevertheless cured of diseases by the "Christian Scientists." Trees and flower plants, potato plants and pumpkin vines, which have never been accredited with mind of any kind, are amenable to treatment by the mind cure system of Mrs. Eddy and her followers. Such claims are actually made in the *Christian*

Science Journal, wherein those who think they have been healed or think they have healed something publish their testimonials and thank Mrs. Eddy and God.

Let us see the nature and value of these testimonials.

Mr. Lawrence Irwell of Buffalo, N. Y., who made a serious attempt to investigate some "Christian Science" cures and whose very valuable contribution appears in the July issue of the *Medical News*, shows conclusively that the authors of some testimonials are not to be found anywhere; that tumors claimed to have been cured by some "Christian Scientists," had in some instances been previously operated on and cured by surgeons; that alleged cases of Bright's disease and of other usually incurable diseases supposed to have been cured by "Christian Science" had been wrongly diagnosticated by the "Scientists;" that all other cases in which recoveries had been demonstrated were such as nature cures under any system of treatment and are of daily observation among physicians; that many testimonials are unreasonable attributions to "Christian Science" of results of natural law which occur daily; Eugene Wood (in a splendid article in the August number of *Ainslee's Magazine*), J. M. Buckley, LL. D. (in a masterly paper in the July number of the *North American Review*), Dr. H. V. Sweringen (in a delightful critique in the *Lancet Clinic*, Cincinnati, of July 20th), each bring forth indisputable and independent evidence in support of these contentions. Indeed they strongly impress one that most of these testimonials are untrustworthy and some of them fraudulent. Nor are "Christian Scientists" approved by Mrs. Eddy all free from the charge of deliberate duplicity. Mrs. Augusta B. Stetson, First Reader of the First Church of Christ, Scientist, New York, claims to be able to cure all forms of disease, organic and inorganic, whether it appears in a man, woman, child or pipe organ she avers, yet the public charge that her husband and mother are both invalids hidden in the top of her house, which has not yet been denied.

THE MERCENARY NATURE OF "CHRISTIAN SCIENCE."

Mrs. Eddy opened the Massachusetts Metaphysical College in 1881. In seven years she had graduated 4,000

students. At \$300 a student for "twelve half-day lessons," her regular fee, this means a revenue of \$1,200,000. Pretty good start in business. She treated some people during that period and some treatments are recorded at the neat sum of \$250 for thinking a few minutes about the case. As the number of her sick followers has been astonishingly large it is easy to realize the fact that she must have laid a comfortable nest egg outside of her college receipts. In 1899 she had sold about \$500,000 worth of her first book, "Science and Health with Key to the Scriptures." Since 1883, it is claimed, she has sold also some editions of her book entitled "Miscellaneous Writings" at \$2.25 per copy. Besides these she has published numerous other writings which are all sold at a high price. It is claimed that there are more than a million "Christian Scientists" today, all of whom must understand "Science and Health" to be admitted as real "Christian Scientists." It is fair to believe that at least a half (if not every alleged member) has paid for this book, not to say anything about rank outsiders who have purchased it too. This low estimate would bring the modest sum of \$1,500,000 to Mrs. Eddy for this one print alone.

The Christian Scientist Publishing Society of Boston, the authoritative distributor of "Christian Science" literature for the mother church—Mrs. Eddy's church—from which healers hatch and evolve, issues a monthly *Christian Science Journal* at \$2.00; a weekly *Sentinel* at \$1.65; a quarterly, pamphlets galore, tracts, etc., all for sale. The Mother's Evening Prayer (doubtless an improvement on the Lord's Prayer) is for sale at \$1; (why did not Christ charge for the Lord's Prayer?) The Communion Hymn is offered for 50 cents; a Church Manual is offered for \$1; a Christian Science Hymnal for \$1.15; (story of) The Mother Church \$1.50; The New World for 75 cents; Woman's Cause for 32 cents.

This "Woman's Cause" is the cheapest thing Mrs. Eddy ever offered. If we judge from this and her matrimonial ventures, we are led to think that she perhaps thinks less of wives than she does of husbands.

There are about 471 organizations of so-called "Christian Science" churches in the world, (although some of them are mere bed-rooms in size, and 108 associations without the designation of church, or about 578 congregations all told. All of them advertise in the *Christian Science Journal* (monthly) at \$2 annually for the first line, which means \$1,156, and \$1 for each subsequent line. There are twenty one-fourth pages of such "ads" in the August number with 120 to 130 lines in each, or to be lenient, say:

20 pages of 125 lines, or 2500.....	\$2500 00
per year, with the.....	1156 00 of congreg'tn ads
We have the total of.....	\$3656 00

per year for the fixed church ads alone, for any change of which a charge of 50 cents is made. Some 3700 "Christian Science" practitioners advertise in the same journal. Most of them have but one line. At \$2 a line, (the fixed price demanded), it means \$7400 a year of fixed "ads," for change of which a charge of 50 cents is also made. Eighty-five "Christian Science" institutes advertise at \$20 each per year, or a total of \$1700 a year income for these "ads." The total for all these specific, morally compulsory "ads," set up once for the whole year or changed on payment of 100 per cent more than the cost is.....

{	\$ 3656
{	7400
{	1700
	12756

A circulation of 500,000 (half the number of Chr.students) at \$2....

Revenue per year.....	\$1012756
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and then there is a per capita tax and contribution to the Mother Church, Mrs. Eddy's church, which should be sent to Stephen A. Chase, Treasurer, Box 36, Fall River, Mass. What this is I can't say, but, judging from the high price of everything sold by "Christian Science," we are safe in not counting this tax in dimes.

Now with this immense revenue from so many sources rolling directly into the coffers of Mrs. Eddy, her publishing house and her Mother Church, and with 500 churches and real property scattered over the land and worth twelve or thirteen million dollars; and with 3,700 advertised and

authorized practitioners of mind therapeutics or "Christian Science" healers, anxious for work, and notwithstanding the following declaration of Mrs. Eddy in the preface of her book, "Science and Health," "In the spirit of Christ's charity as one who hopeth all things, endureth all things and is joyful to bear consolation to the sorrowing and healing to the sick," there is not one "Christian Science" charity clinic anywhere in the world for the poor; there is not one place where the suffering can receive "Christian Science" consolation without pay; there is no indication in "Christian Science" teachings or doctrines, that a healer would do charity work as the true physician does, as truly sympathetic people of any denomination do. It is money, money, money, and every scheme and move from the foundation of the "Christian Science" business to this day has been the building of a wheel within a wheel to grind money out of the credulous in the name of God and sweet charity.

THE TEACHING OF "CHRISTIAN SCIENCE."

It would not be so difficult for ordinary reasoning people to study "Christian Science" were the purports of its lessons susceptible to argument, and the teachers themselves would argue, but everything that the creed teaches is, judging from the ordinary common sense of man, radically and palpably absurd and the "Scientist" will not reason; one can scarcely retain sufficient patience to tolerate the audacity and effrontery with which by too many of the "Christian Scientists" this peculiar dogma is flaunted before civilization and pushed before individuals on every occasion. Every page of the book, "Science and Health with Key to the Scriptures" teems with statements absolutely incompatible with common sense, logic and human experience. Here are a few taken as I read the book. Pages seven and eight: "Usage classes both evil and good together as mind, though to be understood, the author calls sick and sinful humanity mortal mind." Here is a falsehood. There is no usage in the world classing evil and good together as mind. Nor can evil, sin or sickness be logically classed together. Evil,

per se, may be mingled with good and may proceed from diverse causes for which the sufferers from its consequences may not be responsible, but that special form of evil known as sin is a conscious and willful deviation from righteousness; and that other form known as disease is the result of the usually unwittingly violation of natural law. Consequently, Mrs. Eddy, in this grouping of bad and good and denying sin (Life, God, Omnipotent, Good, deny sin) proclaims sin (unrighteousness) to be trivial. Hence she teaches immorality. And in denying disease and treating it for money she testifies herself to her own fallacy and duplicity, for she avers thereby that disease is real and that money is matter, two things that she denies where her financial interests demand it.

Mrs. Eddy denies the reality of the body, yet, page 10, she specifically declares this affirmation of her's untrue in this manner: "Bodies are corporeal." Mrs. Eddy speaks much of mortal mind and spiritual mind and denies the existence of the brain as the home thereof. How came she to enunciate this idea? Was it not through her natural brain, hazy as it may be? Could her shadow have conceived it as well as her body? What did the work—the substantial body with brains or its shadow without material brains?

Mrs. Eddy says (page 41) that "Jesus used no drugs" in his treatments, "and acted in direct disobedience to natural laws." Yes, but Jesus did not heal for the purpose of demonstrating his ability as a curist, but for the purpose of showing his divine origin and power. His cures are recorded as miracles, *i. e.*, achievements purposely made in defiance of natural laws. And Jesus healed quickly, instantaneously, instead of by the slow degrees of natural laws which operate in every patient of the Eddyites as attested by themselves and their healers.

On page forty-two Mrs. Eddy, referring to drugs, writes: "The prescription which succeeds in one instance fails in another and this is owing to the different states of the patient." Here she admits the value of drugs in disease and yet elsewhere she denies the merit or existence of both. Bright Mrs. Eddy! Sane Mrs. Eddy!

On page forty-five she declares that "the blood, heart, lungs, brain, etc., have nothing to do with life." May I venture to say that a person having a persistent delusion that he is not real, is usually termed, and justly, too, a true lunatic and probably placed in an asylum?

On page forty-six she declares that it is impossible for a boil to be painful, because "matter without mind is not painful." How about matter with mind? In her many platitudes Mrs. Eddy betrays her concealed knowledge of facts and does ascribe mind—both mortal and immortal—to human beings. Possibly if she sat on a boil she might be reminded of its real painful existence.

On page forty-seven she states that "we have smallpox because others have it" and denies the contagiousness of it by the agency of a virus and denies finally its existence altogether except in imagination. Unfortunately for this elastic theory, Mrs. X, "Christian Scientist," who caused a stampede last winter by running away from Brooklyn by train to another state to avoid quarantine did not escape smallpox and now she affirms that Mrs. Eddy's claim is false. A pretty face, even when borne by a "Christian Scientist," if it is marred by smallpox, is not likely to uphold the theory of the non-reality of this pest or of the afflicted face.

On page forty-seven again, Mrs. Eddy prints that "If a child is exposed to contagion or infection the mother is frightened and the child becomes ill through this fear." But what of motherless children for whom no one fears or cares and who sicken and die of diphtheria? What of the thousands who contract scarlet fever, diphtheria, typhoid fever, from sources unknown to the mother, guardian or friends and whose condition is not discovered until after full development?

On page fifty-one she says, "The profession of medicine originated in idolatry with pagan priests." What of Mrs. Eddy's Christian medico-religious creed which can be traced back directly to paganism hundreds of years before Christ?

On page fifty-two she speaks of "needed operation"

performed on a woman by certain surgeons. There she admits the value of a doctor, yet she condemns medicine and surgery.

On page fifty-three she says: "The motion of the arm is no more dependent on the direction of mortal mind than are the organic action and secretion of the viscera" and flatly contradicts herself in the very next lines in this language: "When the mind (mortal mind) quits the body the heart becomes as torpid as the hand." She here acknowledges that the mortal mind gone (by death) the actions of the body cease. Does she not acknowledge here that mortal mind does have direction over the action of the system?

She declares herself capable of restoring lost substances of the body organs, lungs, legs, and arms for instances. Some one-legged man should test this by requesting her to restore the lost substance of the leg. But why should Mrs. Eddy restore lost substances of legs or lungs if they have nothing to do with life?

With regard to pain she says there is no such a thing, only man's mortal mind thinks so. How does she account for the squirming of the *unthinking* worm trodden under foot, to which her teachings concede no mind? How does she account for the yelp of the *mindless* dog that is whipped; for the squeal of the *mindless* pig that is stabbed by the butcher?

In reference to poisons she says the general belief in their poisonous effects is what causes death. Unfortunately for this puerile logic it happens that knowledge of poisons had a beginning, generally an accident, and occasionally a consequence resulting from experiment, to show chemical or medicinal properties. There was neither knowledge nor belief about the existence of poisonous power in anything until after its first demonstration by poisoning and death. Therefore, such beliefs could not then influence the mind. But returning to animals and plants as evidence, poisons that kill men with Mrs. Eddy's mortal mind also kill plants and animals without Mrs. Eddy's mortal mind. I suppose that Mrs. Eddy will readily get over these animal and plant propositions. She who can say that worms in chil-

dren are generated in the bowels by the *influence of the mother of the child*, would find no difficulty in endowing anything with such a mind as would suit her purpose; or to establish beyond refutation that mortal minds of human beings are responsible for the colic of the mule, the bite of the wild beast in the jungle, the withering of the peach tree by the blight, the destruction of the potatoes by the bugs, the death of the fishes washed ashore by the storm or waves. (By the way, this theory of Mrs. Eddy's, that mothers are responsible for the diseases of their children and for worms in them, looks like the ground work of the charges for which witches were burned. Look out for the future, oh mothers! if this sort of opinion becomes universal.)

With regard to training children in healthy habits, "Christian Science" ought surely to be past master, for the spiritual founder, having had a number of distinct husbands, cannot plead lack of family opportunities. Still I may be mistaken in this. Though so thoroughly dominated by material senses to dare, it is alleged, to enter the matrimonial state an excessive number of times, history does not record her progeny. Possibly they were born in her mind, as is quite apropos, and it is from her knowledge of imaginary children that she preaches to material mothers as a sanitary lesson not to wash their little ones too often or too clean.

THE PUBLIC WEAL AND "CHRISTIAN SCIENCE."

Freedom of thought and action is the most glorious and the most cherished privilege of North America, but under its name, as under the name of justice, what ghastly crimes are committed! Freedom of conscience and thought has been perverted into licentiousness whereby immorality and murder in the glare of a noon-day sun sometimes go unrebuked as well as unpunished of the courts of the land. In the name of freedom, and under the cloak of religion, one may, in the United States of America, deliberately subject new-born infants and defenseless people to the very jaws of death opened by preventable and curable diseases, and

the courts will often say that they cannot interfere, and the law will be sometimes so interpreted it seems as to not only condone such a crime but encourage it. Indeed, in the name of religion or liberty, one may favor the dissemination of pestilence broad cast irrespective of public or private rights.

It is established by facts beyond controversy that diphtheria, at one time beyond the control of medical science, is today preventable by sanitary regulations if observed; it has been demonstrated that almost every case taken early is curable by natural law applied through antitoxin. Yet, despite this momentous discovery and its generalization throughout the world, "Christian Scientists" (with a pagan sort of Christianity and no science at all,) not only ignoring but refusing to study the laws of nature and the symptoms of disease, are not only permitted but encouraged to sacrifice the life of innocent children by delaying and refusing the administration of this natural remedy. It seems to be forgotten that freedom of action and religious practice do not mean that a parent or a healer of any kind has the right to sacrifice human life any more by neglect or fanaticism or deliberate use of false doctrines than by the use of a shot gun or poison or a dagger. Justice would characterize as possessing sometimes, unconsciously doubtless, the ruthlessness of insanity if not of murderers those who, classed as sane people in society, enjoying its privileges, its emoluments and honors, expecting and demanding its protection, do, under the guise of religion or liberty, expose children to the dangers of death by denying them the means of salvation which time, science and experience have demonstrated to be the most reliable available. Can the founder of "Christian Science" sincere or not, escape the odium of this charge altogether? If through delusions, ignorance, fanaticisms, or anything else, she or her healers, judging them by the universal human standards, seem to place over gaping graves children whose rights they wrest from misled, deluded, insane or sane parents or guardians, should not the law interfere? One may, perhaps, kill himself by "Christian Science" methods or poison or violence and

Science and "Christian Science."

it may be nobody's business but his own and the dependents whom he so cowardly deserts, but there is no doubt that no one has the right to endanger, expose and far less destroy the life of another by any means under any name, guise or pretext, and the crime is the greater in the case of defenseless human beings.

I venture to say again, that "Christian Science" advocates immorality and crime when its teaches that sin *does not exist* and that mind can heal infectious diseases which we know—all sensible people know—are as clearly due to living contagion that cannot be thought away just as truly as a corn field is due to the corn seed, and its stalks cannot be melted into nothing by imagination. The weal of the people then is gravely imperiled by this pretending unscientific sect which, besides its direct wrongs, by this encourages the creation of other dangerous associations under the name of religion, as the Herronites, Dowieites and mind healers, for instance.

LEGISLATION AND LAW CONCERNING "CHRISTIAN SCIENCE."

If one man more than another needs the guidance of true science *i. e.* logic as made clear by the material senses upon which all human beings depend, it is the legislator. If there is one official above all others that needs to have a scientific mind, a mind full of the sense of the real truth and justice and free from the influences of the imagination, it is the judge. Yet legislators have refused to subject "Christian Scientist" healers to the test enforced on physicians to establish their knowledge of the laws of life, health, disease, and treatment. Judges have interpreted the law in such a manner as to ensconce alleged beliefs and alleged religions in privileged temples whence they may safely practice medicine and allow the destruction of life, if not contribute to it, directly or indirectly, with impunity.

THE PROFESSIONS AND "CHRISTIAN SCIENCE."

The clergy, the lawyers, and the medical profession have stood by, half amused and half amazed at the colossal

conceit of "Christian Science," but they have remained practically inactive. At least each now seems to be realizing its duty to society, but it is late. The tares and thistles have been sown, and a subtle poison warping the intelligence has been inoculated into the nation's blood. But it is not too late for good work, for effective work, if all will but awake to the gravity of the situation and act harmoniously and with determination. We must show the threatening dangers to a community, of principals that encourage personal uncleanliness, disregard for sanitary rules, deny the existence of infection, and defy the laws protecting public health. We must demonstrate the fatal consequences to human life of permitting the application of "Christian Science" treatment in case of infectious and contagious diseases such as diphtheria, scarlet fever, smallpox, tuberculosis. We must protest against the reckless conduct of "Christian Science" practitioners in the treatment of children and other helpless or irresponsible persons. It seems to me that it is high time that some concerted action should be taken for public protection against the immoral, fanatical and unsanitary teachings of any sect.

SELECTIONS.

CLINICAL NEUROLOGY.

CRETINISM.—Charles S. Millet gives Osler's definition of cretinism as a "chronic disease of nutrition due to loss or impairment of function of the thyroid gland. It causes a retardation of development of the central nervous system, leading to a retention of an infantile state and to an extraordinary disproportion between the different parts of the body." The author describes the various symptoms in detail. Early and slight forms, he says, are often overlooked; the mental apathy, muscular weakness, stoppage of growth, dryness of skin, together with subnormal temperature, are enough to justify an experimental course of treatment with sheep's thyroid. This is best given in powder, as it dissolves rapidly on the tongue, and none is lost, even if the patient is unruly. It is best to begin with half a grain three times a day, and gradually to increase it. Whenever the temperature goes above 100°, or the child becomes very nervous and does not sleep, the remedy must be diminished or stopped for awhile. Later, when the nutritive changes are fully re-established, a very moderate dose once or twice a week will be sufficient.

CYTO-DIAGNOSIS.—The discovery of the different cellular elements in the cerebro-spinal fluid obtained by lumbar puncture has lately become a means of diagnosing various nervous diseases. Numerous reports upon this method of cyto-diagnosis have been made before the Medical Society of the Paris Hospitals. The first communications were made October 17, 1900, by Widal and his assistants, Sicard and Ravaut. Monod (*Bulletins et Memoires de la Societe*

Medicale des Hopitaux de Paris, 1901, No. 2) examined the cerebro-spinal fluid of fifty different nervous patients, finding leukocytosis in locomotor ataxia and general paralysis. No cellular elements were found in hemiplegia, alcoholism, peripheral neuritis, or hysteria. Widal, Sicard and Ravaut (*Ibid*, 1901, No. 2) found that the leukocytes seen in tuberculous meningitis were mainly lymphocytes; while in epidemic cerebro-spinal meningitis only polynuclear leukocytes occurred. This was confirmed by Chauffard (*Ibid*, 1901, No. 11) and Boinet and Raybaud (*Ibid*, 1901, No. 19). In general paralysis and tabes they found abundant lymphocytes. They also failed to find cellular elements in typhoid fever, paralysis agitans, chronic chorea, delirium tremens, progressive muscular atrophy or hemiplegia. Sicard and Monod (*Ibid*, 1901, No. 2) found lymphocytes only in syphilitic meningomyelitis. Widal (*Ibid*, 1901, No. 2) also found lymphocytes mainly in meningomyelitis, both when syphilitic and when due to typhoid fever. Nageotte (*Ibid*, 1901, No. 3) believes that in syphilitic meningomyelitis mononuclear leukocytes predominate in the cerebro-spinal fluid, while in non-specific cases, the majority of the cellular elements seen are polynuclear leukocytes. Labbé and Castaigne (*Ibid*, 1901, No. 12) discovered that the polynuclear leukocytes seen in epidemic cerebro-spinal meningitis disappear as the patients recover. Sicard and Brécy (*Ibid*, 1901, No. 13) report a case of "walking" epidemic cerebro-spinal meningitis, in which polynuclear leukocytes were found during the very acute stage, mononuclear lymphocytes during the sub-acute chronic stage. In this case the osmotic tension rose from 0.54 early in the disease to 0.60 near recovery. Babinski and Charpentier (*Ibid*, 1901, No. 17) found marked lymphocytosis in the cerebro-spinal fluid in tabes of specific origin. Babinski and Nageotte (*Ibid*, 1901, No. 18) report the results of one-hundred and twenty cases of different nervous diseases examined. A "walking" case of epidemic cerebro-spinal meningitis was diagnosed from the polynuclear leukocytes found by lumbar puncture. Lymphocytosis was found in tabes and general paralysis. Lymphocytosis seen in the

cerebro-spinal fluid from a woman whose condition had been diagnosed alcoholic polynuritis, showed that the true condition might be tabes. The cerebro-spinal fluid was normal in hysteria, neurasthenia, brain tumor, hemiplegia, paraplegia, chorea, epilepsy, etc. They conclude that a pronounced lymphocytosis is always a sign of diffuse syphilitic lesions, and is found early. Joffroy (*Ibid*, 1901, No. 18) insists upon frequent puncture, as the conditions found change rapidly. Dupré and Devaux (*Ibid*, 1901, No. 20) also found lymphocytosis in general paralysis, as did Siglas, Nageotte and Joffroy (*Ibid*, 1901, No. 20.) The results in senile dementia and melancholia were negative. They believe that the cellular elements found in the cerebro-spinal fluid show the existence and the intensity of meningeal reaction. Widal (*Ibid*, 1901, No. 20) considers lymphocytosis a sign of a chronic lesion of the meninges. It is not present with meningismus. Souques and Quiserne (*Ibid*, 1901, No. 22) report a fatal case of tuberculous meningitis in which lumbar punctures showed a continually increasing number of lymphocytes, and low osmotic tension, first 0.51, later 0.55. Cerebro-spinal fluid injected into rabbits caused tuberculosis. The diagnosis was made from the examination of the cerebro-spinal fluid. Bourcy (*Ibid*, 1901, No. 22) and Faisans (*Ibid*, 1901, No. 23) reported similar cases, settled by cyto-diagnosis. Laignel-Lavastine (*Ibid*, 1901, No. 22) found that leukocytosis exists early in general paralysis; that when cachexia develops, the number of leukocytes varies; that three-quarters of the leukocytes found are lymphocytes; and that when many polymorphonuclear leukocytes are found with lymphocytosis, in tuberculous meningitis, meningeal suppuration has occurred. He also found that, while lumbar injections of cocaine, for sciatica or the gastric crises of tabes, may produce temporary amelioration, they also cause leukocytosis, from the meningeal irritation produced by the puncture. Achard and Laubry (*Ibid*, 1901, No. 22) report a case of supposed tuberculous meningitis, in the cerebro-spinal fluid of which a moderate lymphocytosis occurred. Autopsy revealed a cerebellar tumor, however. They believe that for an exact

diagnosis, the number of leukocytes must always be counted. Cyto-diagnosis has always been used in herpes zoster. Brissaud and Sicard (*Ibid*, 1901, No. 10) found many mononuclear leukocytes and decreased osmotic tension. The French physicians are still at work collecting statistics which they hope will lead to yet more important general conclusions.—*Editorial in The Philadelphia Medical Journal.*

ARTERIAL HYPERTONUS.--By arterial sclerosis is meant a condition of fibrous hyperplasia, with diminished elasticity of the coats of the arteries, particularly those of smaller size. There has been some difference of opinion as to whether the morbid process begins in the middle or the internal coat, but in any event it is generally believed that it is the latter that especially suffers. The process may exceptionally be localized to a circumscribed area, but almost invariably it is general in distribution. It is probably dependent upon the presence of irritants in the circulation, acting directly upon the coats of the vessels and indirectly through a like deleterious influence upon the vasa vasorum. As a secondary result, degenerative fibroid changes take place in the viscera and the tissues generally, and in this way, physiological senescence and eventual dissolution are brought about. Atheroma, on the other hand, is generally considered a condition of fatty degeneration of the intima of the arteries, with necrosis and ulceration, and which may secondarily be followed by a deposition of calcareous matter.

In addition to the two morbid processes mentioned, Dr. Wm. Russell (*Lancet*, June 1, 1901) describes a third, which he designates arterial hypertonus, and which may occur independently or be associated with the others. In the presence of this condition the normal arterial tone is increased, and the vascular tension may be heightened, with a reduction in lumen and a diminution in the blood-carrying capacity of the vessel, as a result of contraction of the circular muscular fibers of the walls of the arteries. This modification may be detected by a trained and sensitive finger, but it can be more distinctly demonstrated by

means of the sphygmograph and the arteriometer. With the aid of the former it can be shown that the artery is in a state of contraction, the swing of the lever being less, the percussion stroke shorter and less abrupt, the summit tending to be more rounded, and the predicrotic notch less evident, while the arteriometer measures the diameter of the vessel. Arterial hypertonus may occur under many different conditions, probably as a result of the action of toxic substances introduced from without or generated within the body. In the young and the robust it is associated with heightened blood pressure and a pulse of high tension, while in the aged and the debilitated, when the heart is feeble, it may cause lowering of the blood-pressure and heart failure. If long continued or frequently repeated, arterial hypertonus is likely to be followed by hypertrophy of the muscular walls of the vessel, while the presence of irritants in the blood gives rise to hyperplasia of the sub-endothelial connective tissue of the intima. The treatment of the condition consists, apart from correction and avoidance, so far as possible, of the etiological factors, in the administration of remedies capable of relaxing muscular spasm, such as the nitrites, with which the iodides, in small doses, may be serviceably conjoined.—*Medical Record*.

INTERMITTE NT BLADDER AND BOWEL PARALYSIS FROM MALARIA.—Busquet *British Medical Journal*, relates the following case of a soldier, aged 28, who entered his hospital ward on May 16th, with the diagnosis of malarial anemia after a sojourn of two years in Madagascar. No morbid antecedents, no syphilis, no alcoholism, and no history of urinary incontinence during childhood. The patient had noticed that at the onset of each malarial attack he passed water involuntarily, and that he did not regain control of the bladder till his temperature again became normal. During his stay in hospital he had four attacks of ague, May 16th, June 10th, June 26th, and July 16th. Incontinence of urine occurred on each occasion, lasting five days the first time, eight days the second, and three days each on the third and fourth occasions. During

the second attack incontinence of feces also occurred and lasted for four days. Other nervous symptoms accompanied the incontinence, such as muscular weakness and rhythmical tremor of the right arm and leg. Romberg's sign was not present, and there were no sensory phenomena, hysterical stigmata, or retraction of the field of vision. The symptoms were supposedly due to the development of the malarial parasite in the small vessels of the brain or spinal cord. The two last attacks were sensibly abridged after large doses of quinine had been given and the attack finally disappeared altogether under such anti-malarial treatment.

INSTRUMENTAL AMUSIA IN BEGINNING PROGRESSIVE PARALYSIS.—Donath reports an interesting case of instrumental amusia in a gypsy aged 39, at the beginning of progressive paralysis. Without unconsciousness or paralysis, he suddenly lost the ability to speak. Then he found that he could not play upon his violin. Examination showed that he could play one piece, but only that one, no matter what he was asked to play. Words soon came back, and in time his ability to play the violin again returned. Donath notes that music deafness, musical alexia and musical agraphia may exist. He also reports the case of an idiotic child who could only say a few words, yet could sing fifty different songs. Word-deafness and music-deafness generally occur together. He believes that the lesion causing music-deafness is situated in the temporal lobes. In the case of the gypsy violinist, with complete motor aphasia, word-deafness and partial instrumental amusia, it was especially interesting, psycho-physiologically, that one piece remained *in toto*. This Donath explains by believing that this piece of music occupied its separate memory compartment.—M. O. in *Philadelphia Medical Journal*, excerpt from *Wiener Klinische Wochenschrift*.

DIAGNOSIS OF THE BACKWARD CHILD.—Among the practical points mentioned by A. W. Wilmarth are the following: Of the physical symptoms which are strongly

indicative of lack of normal mental growth, the failure of articulate speech, where defect of the auditory apparatus, or that concerned in articulation does not exist, is the most conspicuous. In the absence of these physical defects, if the appearance of speech is delayed beyond the age of six years, it may be safely inferred that cerebral deficiency or lesion exists, and that some mental weakness surely accompanies the child's silence. Gait and posture are of some value, taken in connection with other symptoms. The former is apt to be slow and awkward, the latter stooping. The lately published observations of Wiley would tend to show that the sense of touch is generally less sensitive than in the average child. Sensibility to pain, especially in cases of marked dullness, is very frequently found, and would tend to indicate a lack of tone in the whole nervous system. Family history will render valuable aid. As all mental action has a physical basis, and as the physical formation of each individual is but the sum total of ancestral traits, we may expect parental weakness to exist, either active or latent, in the offspring. Again, while a fair memory by itself is no indication that mental weakness or delayed mental growth is not present, a failing memory, or one that fails to respond to training by any marked improvement, may be looked on as abnormal.—*New York Medical Journal*.

PSYCHICAL TROUBLES IN MALARIA.—It is not the malarial parasite, but the toxins which it secretes, which constitute the pathogenic cause of the various nervous phenomena observed in malaria. The delirium of malaria does not differ from toxic delirium. The intoxication of malaria may be pathological or psychological; there are four degrees: (a) excitation; (b) anaesthesia; (c) coma; (d) paralysis. There are three degrees of malarial delirium: Subacute, acute and very acute. The writer believes psychic troubles to be rare in the course of chronic malaria.—Jean P. Cardamatis in *Progress Medical*.

PECULIAR NERVOUS AND URINARY MANIFESTATIONS FOLLOWING GRIP IN THE AGED.—O. P. Kernodle con-

cludes, from a study of tabulated cases, that aged persons suffer more violently from influenza than those in youth and vigor; the manifestations are more marked and profound in the aged, and never entirely disappear; nephritis and urinary disturbances are more pronounced and lasting, and there is more decided tendency to recurrence, resulting in death; owing to the worn out and deteriorated physical condition and lowered nerve resistance, the results are more grave, the assaults more violent and profound, and the death rate much higher in persons over fifty.—*American Medicine.*

CLINICAL PSYCHIATRY.

GLYCOSURIA IN MENTAL DISEASES.—The *Medical Age* quotes Raimann (*British Medical Journal*,) as contributing from the clinic of Wagner in Vienna, an important article based on the study of 103 patients suffering from various forms of idiocy and mental disease, to determine the capacity for assimilation of sugar in the economy, and to ascertain the degree to which this may be lost in mental diseases. Control experiments were made first on healthy subjects, who gave results showing that, after ingestion of sugar, nearly the whole was assimilated and that the traces of sugar met with in the urine were small [less than 2 per cent. as a rule] and exhibiting little variation. In mental disease the power of assimilation was weakened or disordered, and in some a considerable excretion of sugar occurred in the urine. The chief conclusions were as follows: [a] In idiocy the assimilative capacity for sugar was high, and the same was the case in paranoia and epilepsy. [b] In acute mania the assimilative capacity was further slightly increased, and this was more so in the case of alcoholics under abstinence. [c] The assimilative capacity for sugar was low in senile dementes, and in cases of acute mental confusion [acute dementia] of paralysis. [d] It was especially low in cases of melancholia and of alcoholic delirium. [e] Diabetes might and did occur in

insanity. Thus amongst the 103 patients there were two diabetics, and one of these [a paranoiac] showed an excessively high degree of sugar. [f] In a general way, out of a total of 103 patients examined, fourteen [exclusive of the two diabetics above alluded to] showed some degree of glycosuria. [g] The assimilation of sugar is a general metabolic function, and its disturbances in the insane are due to the action of endogenous or exogenous toxic agents or poisons absorbed into the body.

AN ANTHROPOID DEGENERATE—Giannuli and Maiano report (*Journal of Mental Science*) the case of a man forty-four years old of bad maternal and parental stock who was nursed by a syphilitic and received a severe injury in infancy and learned to walk at five and talk at six. Puberty was normal and there was marked sexual excess. He was errabund and found guilty of an insanely committed sexual crime. He had an oxycephalic head with median sagittal crest increased in the metopic suture line. The lateral occipital crests were markedly evident. There was a marked Neanderthaloid supraorbital on both sides. The hair grew low on the forehead and the nape of the neck. The malar bones were prominent. There was a narrow oblique palpebral fissure, with wrinkled lids. There was a marked development of the caruncle. The nose was platyrhine. The lips were projecting and there was subnasal prognathism. There was a marked development of the central incisors with a simian diastema in both jaws. There were Wildermuth ears and a simian type of pelvis.

COLITIS OR ASYLUM DYSENTERY, according to T. C. Shaw (*Journal of Medical Science* Oct. 1901) only a small proportion of colitis is primarily of bacterial origin. Ulceration of the bowel mucus membrane, common in the insane, is a trophic degeneration dependent on the low nervous vitality of the patient.

MELANCHOLIC BLOOD AND EMBRYO.—Ceni concludes (*Rev. de psychiat.*) that there are certain substances in

the blood of the melancholiac which introduced into the embryo produce weakness of the mesodermal tissues. Blood pressure may then cause varicosities and extravasations.

PARETIC DEMENTIA IN THE LAST TWO DECADES.—Behr claims that the typical variety of paretic dementia as well as the agitated variety has decreased during the last two decades. The quiet variety has however increased.

NEURO-SURGERY.

EXTIRPATION OF THE GASSERIAN GANGLION.—Professor Krause (*Munch. Med. Woch.*, Nos. 27 and 28, 1901) reports twenty-seven patients treated for excruciating trigeminal neuralgia. Several had suffered for over twenty years, but all have been cured without having a trace of neuralgia since. The first cases operated on in 1893. The author ligates the middle meningeal artery, which takes but a few seconds, to avoid complications. The time required for the operation depends greatly upon the amount of hemorrhage; one operation lasted three hours. The average time was one and one-quarter hours. By scarifying the bone about fifteen minutes is saved. Three patients died—one in a few hours from shock, an old debilitated woman, and one with chronic nephritis. To prevent paralysis of the lower lid Krause cuts parallel with the fibers of the facial nerve. The cornea is protected for a few weeks. Neuralgic pains have occurred in several on the other side but on the side of the operation the only complaints have been twitching and itching.—*Medical Age*.

NEURO-PATHOLOGY.

URIC-ACID FALLACIES.—Frank Billings declares that some of the fallacies of uric acid are: I. That uric acid is toxic. II. That it is a causative factor in any

disease except gout. III. That "uricacidæmia," meaning acid blood, exists. IV. That the chemical reaction of the blood may be altered by the use of medicinal quantities of the alkalies or by diet. V. That uracic deposits may be dissolved out by the administration of alkalies. VI. That lithia is a uric-acid solvent of unusual potency. VII. That uric acid is an abnormal constituent of the urine. VIII. That an excess of uric acid in the urine at one time or a deficiency at another time indicates an abnormal condition in reference to uric acid. IX. That rheumatism is due to uric acid. The writer adds that our present position in relation to uric acid consists not so much in positive knowledge as in the throwing aside of an accumulation of old theories and absurdities.

NEURO-THERAPY.

SUPRARENAL EXTRACT IN PSYCHIATRY.—Dr. W. R. Dawson concludes (*Journal of Mental Science*, October, 1901) that the chief physiological action of suprarenal gland extracts is increase of arterial pressure, but they also produce a tonic effect upon the heart and on muscle generally and possibly some diminution of metabolism. Owing to the transitory nature of the effects produced by intravenous injection of the extracts, they must be given by the mouth if any prolonged action is to be obtained. Digestion is not impaired by moderate doses. Both for *a priori* reasons and as a matter of experience they appear to be indicated in conditions of excitement and exaltation in which state the blood pressure is usually lowered. Administration for a certain length of time will be found necessary in most cases to produce marked effect where excitement is violent. Although the state of the blood pressure as a rule forms a convenient indication for their use, high pressure does not absolutely contra-indicate them, if there was some reason to think that it is not associated with the mental state as an abnormally high pressure may still be lower than the average of an individual case. Suprarenal extracts seem

unlikely to be of benefit in cases of melancholia and where there is much stupor. It therefore seems probable on the whole that the psychoses in which this will be found most useful is in acute mania of fairly recent origin uncomplicated by stupor.

THE TREATMENT OF MOTOR APHASIA AFTER CEREBRAL DISTURBANCES.—Widal recommends a system for training the articulating power of aphasics, the essentials of which consist in an analysis of the patient's speech, or attempts of speech, and systematic drilling on the sounds of their elements that are defective by means of direct study and imitation of the movements of the teacher's organs of speech, and practice before a mirror. Ordinary motor aphasics yield quite readily to this form of treatment, but when, in addition, there is amnesia, the difficulties are much greater since the loss of memory makes progress very slow.
British Medical Journal.

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EDITORIAL.

[All Unsigned Editorials are written by the Editor.]

ENJOYED LOS ANGELES COURTESIES.—The editor acknowledges with much pleasure the very cordial reception accorded him at Los Angeles, California, where he sat at table at the California Club with Dr. I. Cole, Dr. Walter Lindsey, Dr. Wm. LeMoyne Wills, Dr. Henry Brainerd, Dr. Everett R. Smith, Dr. H. Bert Ellis and the genial and accomplished Dr. J. H. McBride. Handsome, talented and cordial gentlemen all of them and capable practitioners, physicians of the most advanced modern medicine. Los Angeles is fortunate in possessing these capable and worthy representatives of the medical profession. We wish all a happy New Year.

HALLUCINATIONS; THEIR PATHOGENESIS, CLINICAL IMPORT, AND MEDICO-LEGAL VALUE was the subject of

discussion before the October 15th and 16th meeting of the Medical Society of the State of New York which we reproduce from the *Medical Record* as follows:

Dr. J. Leonard Corning of New York read a paper with this title. After defining hallucinations, the author divided them into primary and secondary. The former, he said, were excited by irritation, while the latter were evoked by dissociative ideation processes. Among the insane the most common hallucinations were those affecting the hearing. Hallucinations of sight were exceedingly characteristic of poisoning by mineral and vegetable poisons. He protested against the habit of considering hallucinations as consistent with mental health.

Dr. C. F. McDonald said that the hallucinations of the insane were undoubtedly of central origin, and rise in the organs in the cortex regulating sense perceptions. One evidence of this origin was the fact that insane persons who are deaf often have very active auditory hallucinations.

Dr. Edward D. Fisher took exception to the statement that the hallucinations of the insane are altogether central. The only difference between the hallucinations of the sane and the insane was that the sane man finally recognizes that the thing is a hallucination, while the insane accepts the hallucination as true.

Dr. B. O. Kinnear of Clifton Springs, N. Y., thought these hallucinations were probably the result of an excessive quantity of blood in the nerve centers.

Our own views on this subject were presented in the last October issue of the ALIENIST AND NEUROLOGIST. Hallucinations, illusions or delusions may be original with the individual or adopted through suggestion and environment. A healthy mind may accept as truth the hallucination, or delusions of the diseased mind and champion them with enthusiasm and vigor, but they seldom originate *de novo* in perfectly healthy mental organization.

Illusions and hallucinations of external origin may impress in sane minds but delusions original to the mind and not adopted are *prima facie* evidences of insanity, in that regard at least and should be closely scrutinized as to pos-

sible origin external to the mind involved. Extraneous delusions if accepted through external evidence or impression as true existences are not necessarily evidences of insanity in the mind receiving them, while they would be proof of insanity in the mind in which they originate. *De novo* hallucinations of hearing accepted as true which then became delusions evince mental disease.

THE MARYLAND HOSPITAL NEWS Christmas number comes to us in attractive garb with a picture of the old Maryland Hospital for the Insane as it looked on the original site in Baltimore in 1797, on the outside front cover, a likeness of the genial faced and handsome superintendent facing the title page inside, the intellectual face of the editor on the inside back cover and a photo of the sphynx and a poem by Mahones on the outside. But there is no suggestion of the silent sphynx on the other pages. They all talk wittily and well. There are some amazingly interesting things in the *Hospital News*, especially the lines to Mazie. Jack Horner of Baltimore has a corner in the paper, probably one also in Baltimore, and thinks he has a corner on hosiery, underwear, etc. But things are not always what they seem in an insane hospital.

TOTAL DEPRAVITY AND INDIGESTION.—The *Journal American Medical Association* justly attacks the physiologically unwarranted dictum of a prominent surgeon, to-wit: "Total depravity is often nothing more than total indigestion." Any psychologist or psychiatrist at all familiar with melancholia and religious monomania in which delusions of having committed the unpardonable sin or sins of omitted moral duty *folie du doute*, etc., knows how prominent a part neurasthenic dyspepsia and a pepsin play in these conditions in which dread of sin and halting for fear of doing the wrong thing, morally or physically, are prominent symptoms. Surgeons are not good neurologists, as a rule; neither are they good psychologists. They cut into the regions of grosser anatomy better than they dissect the mind, in solution to disease. Great criminals are more

common among the well fed than among the lean and hungry dyspeptics. Poverty of food and digestion and petty thefts are common enough as cause and effect. These are crimes of necessity, but great crimes require brain force and nerve, and for these the rich blood of a good digestion is the life, as in other undertakings.

WILLIAM MACCORMACK, President of the Royal College of Surgeons, Bart., died at Bath. He was born in 1836. His death Dec. 4th was sudden. He had visited the bath-house, where he had been taking the course of waters. On the morning of his death he arose as usual, but feeling ill, he returned to his bed and died a quarter of an hour later from heart paralysis.

HYDRIATIC MEASURES FOR NEURASTHENICS.—Wharton Sinker, M. D., in a paper read before the Philadelphia County Medical Society, May 8, 1901, and published in the September 15th number of the *Therapeutic Gazette*, recommends that "the patient be placed in a hot-air cabinet until perspiration begins, and then given circular, or 'needle bath,' one minute, beginning with a temperature of 95°, and gradually reducing to 85° with twenty pound pressure, then the Scotch to the spine, an alternate hot and cold water douche temperature 105° then 80°, with a twenty pound pressure. First treatment twenty-five or thirty seconds. After a few days the pressure is increased to twenty-five or thirty pounds, and the extremes of temperature used are much greater, alternating between 110° and 70°. After two weeks' treatment the fan douche may be used in addition. If the reaction is good, go slowly in reducing temperature and increasing the pressure. The pulse, temperature, and respiration are taken before and after the bath, and he is weighed before and after. Brisk friction with warm, dry towels, and a short general surface massage and a short walk follows. Hydrotherapy does not agree with all so it should be gauged to each patient.

THE ROLE OF THE JEJUNUM.—Simon and Zerner are reported in *Archives fuer Verterungs-Krankheiten* as having

made the following observations of the digestive juice of the small intestine after the manner of the army-surgeon and St. Louisan, Beaumont, in his investigations of gastric digestion in the stomach of Alexis St. Martin. St. Martin after a gunshot wound had a gastric fistula. Simon and Zerner's patient, in consequence of gastric ulcer and hemorrhage and inability to be fed by mouth or rectum had a fistula made into the jejunum to save her life and she did well after the operation. L. E. L. in the *Philadelphia Medical Journal*, December 14th, thus details the findings of Simon and Zerner:

"The fluid which emptied itself through this fistula was golden-yellow in color, was alkaline to litimus, and acid to phenolphthalein. Its digestive properties were tested in a series of observations. It was found that it digested starches so long as the acetic acid was not added in quantities to make the total greater than 0.13 per cent.; it digested albumens rapidly, when moderately or strongly alkaline; it did not digest albumens when the reaction was about neutral or when it was acidulated with acetic acid. In other words the results show that in its native condition or when moderately acid it digested starches, when moderately alkaline or strongly alkaline it digested albumens, but when acid or neutral, it did not digest albumens, and when alkaline it did not digest starches. This is compared with the fact that the contents of the upper part of the intestine are alkaline, while those of the lower part are acid. When remembering this fact, and considering the results here reported it seems not improbable that under normal circumstances the digestion of albumens and starches takes place, in chief part at least, in different portions of the intestines, the albumens being chiefly digested in the upper part of the small intestine, and the starches in the lower.

A CURSORY NOTE ON SAN FRANCISCO HOSPITALS.
—Let the East look to its laurels. Time was when the brilliant achievement in hospital construction and surgical technique shone brighter in the eastern borders of the United States than in the valley of Mississippi or the

occidental seaboard. But times have changed and men have changed with them. San Francisco has advanced to the front in its hospitals, governmental and private, and in its medical colleges. It has been our pleasure lately to have made our fifth visit to the city of the Golden Gate, San Francisco, to inspect some of its medical institutions. The Cooper College and Lane Hospital and the medical institutions of the University of California gave us pleasure in the contemplation of their facilities for medical, clinical instruction. But the College of Physicians and Surgeons has also won a meritorious place in the front rank of medical instruction on the sunset borders of our vast country. And the St. Winifred Hospitals, Dr. McNutt's splendid hospital and the government hospital at the Presidio, so well conducted by Colonel Girard, the surgeon in chief, have a place in perfection of appointment with the best hospitals, public or private, on earth as we have seen them. Not so large but not lacking in completeness. We found Dr. Anderson's, Dr. McNutt's and Dr. Girard's hospitals, models of beauty of interior arrangement and dreams of antiseptic perfection.

These hospitals are not surpassed save in magnitude of dimensions by the best of the United States or of Europe or Russia.

The United States Government hospital at San Francisco, over which Col. Girard presides, is the best arranged and best conducted hospital of its kind I have ever seen anywhere. Light pervades it everywhere, on all sides of the wards, of ample cubic space per patient, ventilated downward, their locations are away from noise and their entrances and exits are guarded in this particular by having the stewards and attendants quarters and store rooms in the front end, so that visitors and nurses may pass through this corridor before getting to the patients and all come under the inspecting vigilance of the medical officer as he goes to make his morning rounds. The operating rooms are places of antiseptic beauty in all the hospitals I have named, fully up-to-date in all requirements of the best asepsis and technique for one operation at a time and a limited number

of spectators and skillful hands in all do the delicate and daring work for which they have been so aptly designed.

The beautiful x-ray photos of each patient's wound and the hematologic record that accompanies the urinary analysis and other clinical records of each case in Colonel Girard's hospital, are works of arts as well as scientific diagnosis of great value not only to diagnosis, treatment and prognosis but to the interests of the soldiers and the government where a pension may be involved. The laundry, bakery, kitchen, heating, ventilation, water and light supply are the best that modern hygiene can suggest or that the mechanicians of advanced hospital appliance construction have devised.

There is one defect in the perfection of all the operating rooms we have seen, even in those splendid ones of Moscow which so captivated the last International Congress held there and that is inadequate provision for forced downward draft sterilized air ventilation. Another grave defect in procedure often, in operators, we note from a neurologic and psychologic standpoint and that is the preliminary preparations and discussions of technique in presence of patients where cocaine spinal anæsthesia is used or before the ether. For the least neuropsychic strain upon the patient or shock and the consequent exhaustion of nerve force so essential in the post-operative fight of the patient toward convalescence, the better. And the discussion of technique and any unfavorable possibilities in progress seems to us cruel, even brutal, and the latter may have the fatal effect of unfavorable suggestion on the unanæsthetised patient or where the spinal cord has been cocainized, causing anæsthesia without unconsciousness. Modern surgery with its wonders of achievement, needs the councils of psychiatry and neuriatry to secure the best results of its wonderous advances in successful technique under asepsis. The asepsis of the mind of the patient from psychical depression is worthy of more consideration than it has yet received at the hands of modern surgery, if we may be allowed to apply the term asepsis to the mind of the patient poisoned and paralyzed in central nerve tone power

of recuperation from shocking speech and frightful operation *i. e.* frightful and shocking to the novice in the operating room. Psychical and neural asepsis means to the psychologist and the neurologist the saving of the patient from any possible auto-infection or impaired resistance that might result from lowered or retarded normal metabolisms, dependent on the lessened vitality of any psycho-neural shock or insult to the neurophysiology of the patient about to undergo the dreaded ordeal of a formidable surgical procedure. The Lumbar puncture was performed by Dr. —— with the skill of a Tuffier and anæsthesia without unconsciousness.

The lumbar puncture at St. Winifred's Sanitorium was performed by Prof. A. W. Morton with the skill of a Tuffier. Analgesia without unconsciousness, from twenty drops of a two per cent cocaine solution being complete within seven minutes from the time of the needle's insertion within the lumbar cord cavity. The öophorectomy was done with Professor Anderson's accustomed precision and skill and the elucidation of both procedures was clear and complete, but from a psychiatric standpoint not therapeutically wisely made, as they were in the hearing of the solicitous patient. Silence and celerity of surgical procedure or only a cheerful encouraging speech in the hearing of the patient should be the shibboleth of operative surgery.

It is wrong to prolong the solicitude or add to the apprehension of the patient for the finishing of the operation. It is wrong to interrupt the tranquil hopeful resignation of the patient, if that has been once accomplished, by any needless delay or discussion of procedure while the patient is on the table or in the room; that is unless he is brought in anæsthetized in the old way and here is one of the clinical objections to spinal cocainization in lieu of chloroform or ether.

CLIMATOLOGY AND CLIMATOTHERAPY as treated by Weber and Hinsdale in Cohen's system of physiologic therapeutics is a department of medical literature indispensable to the medical counsellor and practicing physician. The

correct prescribing of the proper climate for particular patients requires the knowledge imparted in this book. We hope to see future editions and in them a more extensive presentation of the many varieties of the wonderful climate of California which should be topographically understood in designating residences there for certain patients. The diversity of climate along the Pacific Ocean is as great as that along the Mediteranean and the Riviera, Malta and Venice have there their counterparts.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION held its fifty-seventh annual meeting at Milwaukee, Wisconsin, June 11 to 14. The annual address was delivered by Warren P. Lombard, Professor of Physiology in the University of Michigan, and was followed by a number of interesting papers. The meeting was, on the whole, a successful affair.

HEREDITY *vs.* ENVIRONMENT in the evolution of the race and the Jukes family are up again in the minds of Dr. Edmond Andrews and of Dr. L. L. Skelton.

Dr. Andrews last May came to the defense of the elder Jukes as not the only sinner on the soil and Dr. Skelton coincides with him. One rises from Dr. Andrews' paper and Dr. Skelton's discussion of it with the conviction that there is not the skel'ton of a chance for the race without preferential mating in the line of higher organic evolution.

Dr. Skelton correctly states that "preferential mating on the part of those of good stock is to be credited with the advancement of the race to its present high condition; and rational selection, determined by knowledge of the way advancement may be obtained, will result in the production of individuals of most perfect and symmetrical parts."

"The Jukes are a conspicuous example of how breeding should not be done. They are an instance of hereditary addition of common characteristics. They illustrate preferential mating. They illustrate the course to spontaneous cure, and obliteration of degenerative forces. They illustrate

the small part played by environment in the production of types of individuals. They are an illustration of criminal heredity."

What the world wants now for its advancement is physiological matrimonial mating leaving out the neuropaths and other pathologies from the pale of conjugal union.

HEDONAL.—In the present issue appears an interesting article on Hedonal, and we believe it well worthy of the space we have given it. A drug which has been investigated and commended by such men as Krafft-Ebing, Eulenberg, Mendel, Obersteiner and Riegel is certainly deserving of the attention of neurologists. The article is in no sense a write-up, but a critical study, giving an unbiased view of the therapeutic indications of a new hypnotic.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—Office of the Secretary.—Flint, Mich., Sept. 30, 1901.—Dear Doctor: It has been learned that the dates (June 10 to 13) for the Montreal meeting will conflict with those for the meeting of the American Medical Association at Saratoga. The Council has therefore determined upon a change of dates for the American Medico-Psychological Association to the third week in June, and the undersigned, acting under instructions from the Council, have engaged accommodations for the Association at the Windsor hotel, June 17, 18, 19 and 20, 1902. Very truly yours,

T. J. W. BURGESS,

Chairman Committee of Arrangements.

C. B. BURR, Secretary.

RUDOLPH VIRCHOW'S PHOTO comes to us with the compliments of Schering & Glatz of New York. The picture is a good likeness of our distinguished friend. We accept it and place it in our studio with pleasure.

THE PERIL OF POLITICAL PARANOIA is with us and ordinary statuary freedom is no safeguard against it. The morbidly egotistical and murderous political paranoiac, like envy and death, loves usually a shining and prominent

mark for his victim. That fancied divinity which doth hedge about a king or president, has no place in paranoiac mind. The delusive divine protection is more often with the paranoiac. A political paranoiac armed with a weapon of death and an imaginary divine or self-issued commission to right the world's political wrongs is a dangerous creature for rulers to closely encounter. Political paranoia should be reckoned with in advance rather than after its crimes. An isolated anarchist utopia safe in some desert isle would be the best remedy. When transported anarchists might sing in happy chorus and the civilized world join in

"Good patriots we, for be it understood,
We left our country, for our country's good,"

and Uncle Sam should speed their going.

POLITICAL PARANOIACS prompted to magnicide or regicide, prompted to murder by suggestion of stronger minds if not directed to do it by lot, are fatal contingencies to be guarded against in the public functions of government. They menace the best of presidents as well as princes, kings and emperors. Wisdom in the counsels and conduct of the functions of state will take account of them and of their danger. The next blow at an American Chief Executive may not come by pistol or knife but by method more insidious. Let our esteemed Chief Executive be on his guard and not confide too much, with extended hand, to the cranks who compass the killing of men of exalted station.

There are yet other men like the lately executed assassin who would give their egotistic lives for a chance at magnicide that their names might be coupled in death with some one whom the world called great.

A newspaper code of speech ethics, enacted into a statute, with appropriate penalties for defaming the name or character of our President through the press would be a timely, just and prudent enactment. The President of the United States is the people's representative and his charac-

ter and good name as well as his person should be protected from personal assault of either newspaper or politician.

THE JOURNAL OF MENTAL PATHOLOGY vol. 1, number 3, published in New York, comes to us enriched by four leading articles, the first by Jul. Morel in The Resident Criminal, the second on Regicide, by E. Regis, the third on Acute Delirium, by Semidalow and V. V. Wiedingammen and the fourth by its able editor, Dr. Robinovitch on the State Duty in Preventing Birth of Crime, and with an entertaining and valuable array of editorials, translations, abstracts and reviews.

WALDEYER ON AMERICA.—Prof. William Waldeyer, lately of the university of Berlin, returned home from the bi-centennial celebration at Yale. When asked for his views on the United States, said: "America is too colossal a subject to be interviewed about as the result of a mere fortnight's breathing of its virilizing air."

IN MEMORIAM: DR. JOHN CURWEN.—Dr. John Curwen, born at Walnut Hill, near Philadelphia, September 20, 1821, died July 2, 1901. He graduated at Yale in 1841. He received the degree of Doctor of Medicine in 1844 from the University of Pennsylvania. In his early professional life he was assistant physician at the Pennsylvania Hospital for the Insane to Dr. Kirkbride. He resigned his office in 1849 and was appointed physician and superintendent to the State Lunatic Asylum at Harrisburg, February 11, 1851. He resigned this position in 1881 to accept the superintendency of the Warren State Hospital for the Insane, which office he held acceptably till June 15, 1901.

He was one of the commissioners to locate and construct the Danville State Hospital, and later for the Warren State Hospital to locate and erect an asylum. Dr. Curwen was during all of his professional life engaged in the care and treatment of the insane for a period of fifty-seven

years and was influential in shaping legislative and public sentiment in the interest of the insane of his state.

Dr. Curwen was an honorary member of the British Medico-Psychological Association, and also member of the American Philosophical Association, the American Medical Association, the State Medical Society of Pennsylvania, president of his own State Society in 1869, and trustee of La Fayette College in 1865, an acknowledged expert in psychiatry and renowned humanitarian.

He had been for a third of a century Secretary of the American Medico-Psychological Society and was once president of that body. He was a frequent and forceful contributor to this journal and to the *Journal of Insanity*. He was one of the earliest collaborators and subscribers of the ALIENIST AND NEUROLOGIST. His views were vigorous and sound in matters of practical psychiatry. He was sincere, genial and devoted in his friendship and enthusiastic and true in his chosen work. In his life was personified Ray's faithful picture of the good superintendent, the best ideals of the true psychiatrist. He was a good physician, a worthy friend and an honest man. His life was faithful and his end was peace. To his surviving sister and daughter we offer the tender and sympathetic condolence of one who, in youth, enjoyed his counsel and felt the thrilling, helpful touch of his now vanished hand. The voice that is now stilled was never silent when the duties of his calling or any demand of humanity within the radius of its influence claimed of it to speak. John Curwen was a physician among physicians and a man among men.

DR. SILAS MCDONALD, as we learn from the *Medical Herald*, died at 9:30 o'clock Friday morning, November 8, at the family residence, St. Joseph, Mo., of catarrhal pneumonia. Dr. McDonald was born in Washington county, Ky., April 18, 1812, and consequently was eighty-nine years, 6 months and 19 days old at his death. He chose the practice of medicine as his profession, attended his first course of lectures at the Transylvania University in 1834, removed to Missouri in 1836, and the following year entered

the Cincinnati Medical College, where he completed his course. In 1838 he returned to Missouri, settled in Buchanan county, twelve miles south of St. Joseph, and thus became the pioneer physician of the county, continuing practise until about twenty-five years ago. His extraordinary elasticity and alertness of his mind were evidenced through his final illness and almost up to the hour of his dissolution. He was not only conscious of his surroundings but diagnosed his condition and described his symptoms almost to the last and predicted his end would come.

BE SURE OF YOUR HORSE AND OF YOUR HORSEMAN.—The recent deplorable tragedy in St. Louis whereby nine innocent lives were slaughtered by impure antitoxin impregnated with toxic quantities of the tetanus bacillus admonishes to caution in the selection of the horse and the brand of antitoxin. Men who make antitoxin should be well up to the business and own and test their horses before inoculating them, to be assured that they are well and clean and free from all other germinal infection.

Boards of Health which change in personnel every year or two or three or four years even, are not the best to engage in such medicine manufacturing business with a parsimonious city government to deal with, grudgingly doling out pittances for sanitary purposes as though it was the least, instead of most important demand upon them.

The horse that is to become the subject of diphtheria inoculation should be long enough well-known in hand, and of proven good health to insure the safety of antitoxin inoculation. Health Boards under pressure of adverse critical political environment, everlastingly crying extravagance are forced oftentimes to operate under financial restrictions likely to imperil life, for there is a limit to economy with safety in these matters. But the tetanus fatalities elsewhere, Camden, Cleveland, Atlantic City, Milan, etc., admonish to caution. Is tetanus ever latent in the horse?

A VACCINIA FACT TO NOTE AND REMEMBER.—We have from the excellent laboratory headquarters of Parke, Davis & Co., at Detroit, Michigan, positive assurance that

not one of the recent tetanus fatalities following vaccination at Camden, Atlantic City, Bristol, Brooklyn, Cleveland and St. John, N. B., succeeded the employment of their Vaccine Virus. In not a single, solitary one of these cases was their Vaccine used.

It gives us pleasure to note this fact for we have always had faith in the products of this highly reputed establishment. Parke, Davis & Company have been tried in the balance of critical professional judgment and up to date have not been found wanting in merit.

FOUR HUNDRED DOLLAR PRIZE.—Dr. J. B. Mattison, Brooklyn, New York, offers a prize of four hundred dollars for the best paper on "The Habitual Subdermic Use of Morphia. Does it cause Organic Disease? If so what?" Awarding Committee: Dr. T. D. Crothers, Hartford, Conn., Chairman; Dr. J. M. Van Cott, Dr. Wharton Sinkler. All essays to be in the hands of the Chairman by December 1, 1903 and to become the property of the American Association for the Study and Cure of Inebriety, and to be published in such journals as the committee may select.

THE RECENT DEATH OF DOCTOR CHARLES HENRY BROWN, Managing Editor of our esteemed contemporary, the *Journal of Nervous and Mental Diseases*, is a serious loss to the profession and to medical journalism. He fell at the post of duty, in the midst of a useful and fruitful professional career, loved and lamented as man and physician.

NEW YEAR GREETING.—THE ALIENIST AND NEUROLOGIST greets its many friends, collaborators, contributors, subscribers and advertisers with cordial wishes for a Happy New Year. The past year has been a pleasant and prosperous one to us in all our dealings with you and we hope it has been to you. Our relations have been pleasant with all of you throughout the year that is gone. We could ask nothing more agreeable than to have similar relations continue in all the days of the year before us. We promise our best endeavors for your welfare in all your relations with us for the future as in the past.

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

THE NERVOUS EXHAUSTION DUE TO WEST POINT TRAINING. By Dr. Charles E. Woodruff, of Fort Riley, Kansas, Surgeon, United States Army.

"Every year there are thus sent to the academy," says the author, "a very intelligent set of men, the pick of the United States. It is reasonable to expect that a large proportion of them should become famous or at least men of some note and success in life. The fact is, the very reverse occurs, for it seems as though the best way to extinguish a man is to send him to West Point. Of the hundreds of able men admitted, so few are ever heard of again that civilians constantly ask, "What becomes of all these picked men if they are the choice of the United States?" "What is it the academy does to them to snuff out their abilities or keep their lights under a bushel?" Of those who enter the academy about one-half graduate, so that the weeding out should leave a remarkably picked set of men who should accomplish much in their life-work."

"We must assume that the methods of selection really secure brainy men, but we can positively deny that such examinations secure the best, for it is a fact that intellectual traits like quickness and memory, by means of which boys compete in their studies, are not those upon which success in life depends. The real basis for success is mental energy combined with a good balance of faculties resulting in correct judgments. Great men not infrequently are noted as having been poor students at college. The quickness and brightness so necessary at West Point are really undesirable qualities, for they are apt to make the mind act too quickly for correct reasoning, and they

are the leading characteristics of a large class of men who have little staying powers. The nerve-tissue is flabby, easily fatigued, and wears out in a few years. Some of these men are wonderfully brilliant and capable of considerable mental effort, but only for a few years. Finally, quickness and brilliancy may exist in degenerate minds of a very low order, and boys of this class can enter the academy, but they never stay long. So we are perfectly justified in denying that the candidates are all of the proper material for success in life, though we cannot deny their generally high average of ability. Many graduates of West Point have occupied the highest positions, have proved to be great men and have reflected great honor on their school. They have been great leaders in statesmanship, business, war, art and literature, and the roll of honor is a long one, of which every graduate is justly proud. The point in question is that the roll of prominent names shows too small a percentage. Did the present methods secure the best men, the Engineer Corps, receiving only the cadets of the highest standing, should have at least 90% of noted men. Edward Everett Hale said: "If you should take twelve prize medal men from Harvard and put them in a sinking ship they would all drown through inability to construct a raft." There are mental sponges capable of great absorption but not able to produce. They are generally outstripped by others, as in the famous Yale class of 1837."

"A critical review of the methods of study and of the life of the cadet, leaves no doubt in the mind of the physician skilled in such matters, that many of the failures we have mentioned are due to nervous exhaustion caused by the unwholesome high pressure of their four years of toil. This matter of school routine has occupied the attention of physicians and educators for many years, and the discussions have crystallized the opinion that former methods have been of great harm, and that modern schools must ease up the strain on the delicate nervous system in childhood and youth."

"The nervous system of a child is an exceedingly delicate mechanism which is easily disordered. He requires

wholesome, easily digested food, plenty of fresh air and sunshine, frequent opportunities for unrestrained exercise, frequent periods of relaxation for rest, frequent changes in work and plenty of sleep. It is known that the nervous system retains its infantile traits until the twenty-fifth year, at which time we are accustomed to call it stable. West Point cadets are all under the age of stability and the rules governing the training of young children apply to them with equal force, though of course in modified form. It is safe to apply to West Point the consensus of opinion of educators in the lower grades to determine the faults of that system."

This is a practical and scientific paper which should be read by every educator whether at West Point or elsewhere. We regret that we cannot give our readers more of it. The great damage in exacting educational demands of West Point and elsewhere is in the interferance, the strain the academy exerts over the physiological powers of evolution in the cadet, making of him less of a man mentally than if his faculties were subjected to a milder and more attenuated strain during the developmental period. The strain both bends and breaks brain nerve tissue on its way to the highest maturity and potency of its inherent organic destiny. It evolves neurotics out of men who have the highest and most powerful nerve stability possible to the human organism.

STUDIES IN PSYCHOLOGY OF SEX; SEXUAL INVERSION,
By Havelock Ellis, F. A. Davis Co., Philadelphia, Pa.,
1901.

This is the second edition of that part of the "Psychology of Sex" which relates to sexual inversion. Much of the matter here presented has already appeared in the ALIENIST AND NEUROLOGIST. There are however many additions and revisions. The style is of the clear analytic type which marks all the work of Dr. Ellis. Among the additions is the study by Obici and Marchesini of the school friendships of girls. The school friendship is termed by Italian girls a "flame." This term indicates (as it used

to do in English) a beloved person and the feeling in the abstract. In English however the abstract was love and not friendship. In every Italian college the "flame" is regarded as a necessary institution. The condition however, as Ellis points out, cannot be regarded as a congenital perversion of the sex instinct. The girl usually ceases to feel these emotions on entering social life. In England the term "rave" is applied to practically the same conditions. According to E. C. Lancaster the same condition occurs in American institutions. Love of the same sex, Lancaster remarks, is very common; it is not mere friendship; the love is strong, real and passionate. In all probability these mental states are expressions rather of sex indifference than contrary sexual feeling. They indicate that there is a possibility of homosexual feelings being developed by too excessive association with the same sex. Among peculiarities of inverters are the preference for green garments and a taste in the case of the male for keeping the neck uncovered. The male inverters have frequently an inability to whistle while some of the women inverters can whistle admirably. Dr. Ellis has noted the moral attitude of the invert toward his perversion. In three cases, out of forty-one, the subjects loathed themselves and fought in vain against their perversion. Seven were doubtful. The remainder, a large majority (including all the women), were emphatic in their assertion that their moral position is precisely the same as that of the normally constituted individual. These cases were not seeking to be cured of their perversion. They are hence in striking contrast with those of Westphal. The position that sexual inversion is a variation perhaps due to imperfect sexual differentiation or reversion of type is strongly supported by Ellis. The recent researches of Boveri (reported before the last meeting of the Society of German Naturalists and Physicians) gives an emphasis to this view. Boveri found that the ovum in its preparation for fecundation lost certain parthenogenetic tendencies through the atrophy and disappearance of what we call the centrostome. The place of the centrostome in generation is filled by the spermatozoon. This atrophy might be checked

by material stress; a particular ovum would thereby retain parthenogenetic possibilities which could exhibit themselves in imperfect sex differentiation. This is but one more instance illustrating the working of the law of economy of growth. The book is excellently issued by the publishers.

K.

CHURCH AND PETERSON'S NERVOUS AND MENTAL DISEASES. By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M. D., Chief of the Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, College of Physicians and Surgeons, New York. *Third Edition, Revised and Enlarged.* Handsome octavo volume of 870 pages, with 322 illustrations. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$5.00 net.

This work has met with a most favorable reception from the profession at large. Two editions have been exhausted in as many years. It fills a distinct want in medical literature, and is unique in that it furnishes in one volume practical treatises on the two great subjects of Neurology and Psychiatry.

In this edition the book has been extensively revised, especially in its neurological features. Important additions and rearrangement have made the present of even more value than the excellent preceding editions. Several sections have been entirely rewritten, and there has been added a number of new illustrations, an increased amount of tabular matter, and a series of diagrams that have proved of assistance in the solution of diagnostic problems.

Alienist clinicians will hardly concur in all the author's views, especially the definition of dementia as a term employed to designate simply a general enfeeblement of all the mental faculties which would embrace too many phases of cerebro-psychic asthenia, and some other features of the psychiatric sections might be animadverted upon, especially the too brief treatment of this part of the work and the

lack of definite psycho-pathological description such as may be found more thoroughly presented in Meynert, Ford Robertson and Bevan Lewis, etc., but it must be borne in mind that the book before us is a blended neurology and psychiatry and we take it the author, Dr. Peterson, has designed his part of this excellent volume rather for the neurologist than for the alienist.

The book is done in the excellent style which characterizes all of this publisher's work and it is offered at the moderate price of five dollars.

PROGRESSIVE MEDICINE, Vol. III., September, 1901. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and *Materia Medica* in the Jefferson College of Philadelphia. Octavo, handsomely bound in cloth, 428 pages, 16 illustrations. Per annum, in four cloth-bound volumes, \$10.00. Lea Brothers & Co., Philadelphia and New York.

This volume will prove of more than usual value to the practitioner. Dr. Ewart presents the most recent views on pneumonia, tuberculosis, and other conditions of the respiratory tract. The advances in the treatment of pneumonia and phthisis have been so remarkable in the past year that this section will be read with especial interest. The surgical treatment of various affections of the lungs and pleura has been extended of late in a manner which opens a field which gives promise of great benefit to sufferers from these conditions. In the consideration of the diseases of the heart and blood-vessels Dr. Ewart discusses very fully the recently exploited forms of treatment by baths, medicated and otherwise.

The section on Dermatology and Syphilis by Dr. Gott-heil, besides giving the most advanced information concerning the ordinary problems presented in those subjects, discusses very fully the new and important subject of Phototherapy and the Finsen Light treatment: Blastomycetic dermatitis, and inoculation tuberculosis.

In the section on diseases of the nervous system, Dr.

Spiller devotes a large portion of his space to an able discussion of tumors and abscesses of the brain. He also describes the commoner forms of the peculiar nervous diseases which are sometimes so puzzling to those who have not made a special study of neurology.

In Obstetrics Dr. Norris discusses very fully the treatment of Eclampsia. He gives also the most recent reviews on the subject of Symphysiotomy and discusses the large number of recently reported cases in which Lumbar Anesthesia has been employed in obstetric practice.

In the above are briefly outlined some of the more important features of the work, but its scope includes also an interesting narrative of the practical advances made in diseases of the thorax, dermatology, syphilis, diseases of the nervous system and obstetrics.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A. M., M. D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College, Physician to the Philadelphia Hospital. Volume III—Climatology, Health Resorts, Mineral Springs. By F. Sparks Weber, M. A., M. D., F. R. C. P. (Lond.) Physician to the German Hospital, Dalston, Assistant Physician North London Hospital for Consumption, etc. With the Collaboration for America of Guy Hinsdale, A. M., M. D., Secretary of the American Climatological Association, etc. In two books. Book I—Principles of Climatotherapy—Ocean Voyages—Mediterranean, European and British Health Resorts. Book II—Mineral Springs, Therapeutics, etc. Illustrated with maps. Prices for the complete set, \$22.00 net.

These are the third and fourth volumes of Cohen's *System of Physiologic Therapeutics*, whose timeliness has already been commented upon. The first part treats of the factors of climate, with their effect on physiologic functions and pathological conditions, and describes the fundamental

principles that underlie the application of climates, health resorts and mineral springs in the prevention of disease, and to promote the comfort and recovery of the sick.

The second part describes health resorts, and the third part discusses in detail the special climatic treatment of various diseases and different classes of patients. Book II also describes the health resorts in Africa, Asia, Australia and America.

PERU—HISTORY OF COCA, “The Divine Plant of the Incas,” with an introductory account of the Incas, and of the Andean Indians of to-day. By W. Golden Mortimer, M. D., Fellow of the New York Academy of Medicine, Member of the Medical Society of the County of New York, Member of the New York Academy of Sciences. With one hundred and seventy-eight illustrations. Price \$5.00 net, New York, J. H. Vail & Company, 1901.

This work, although of a scientific nature, has not been written exclusively for scientists. Centuries before the introduction of cocaine to anæsthetic uses, the world had been amazed by accounts of the energy-creating properties ascribed to a plant intimately associated with the rites and customs of the ancient Peruvians, and first made known through the chroniclers of Spanish conquest in America. The history of the coca plant is the history of the Incan race and of the early people of Peru, as told by Helps, Prescott and others. The Incas regarded coca—because of its property of imparting endurance—as the “divine plant.” This book has been epitomized from sources of authority. It describes the industries, science, arts, poetry, dramas, laws, social system and religious rites of the Incas as gleaned from tradition and relics, through all of which is interwoven the uses and applications of coca.

The author aims to show by ample testimony that coca is not only a substance innocent as is tea or coffee—which are commonly accepted necessities—but that coca is vastly superior to these substances, and more worthy of general use because of its depurative action on the blood, as well as through its property of provoking a chemico-

physiological change in the tissues whereby the nerves and muscles are rendered more capable for their work. He believes that the facts he has presented will amply indicate that sufficient has not been said upon the benefits to accrue from the liberal use of coca and that our knowledge of it is yet in its infancy.

Among the many authorities to whom the author acknowledges his indebtedness in the preparation of this work are: Funk & Wagnals, *Standard Dictionary*, Messrs. Parke, Davis & Co., Messrs. Mariani & Co., Boehringer & Soehne, Merck & Co., Professor Lucien M. Underwood, Columbia University, Captain E. L. Zalinski, U. S. A. (retired), Dr. Carlton C. Curtis, M. Anglo Mariani, Paris, France, the Bureau of American Ethnology, Washington, Mr. J. N. Jaros, Mr. Herbert Tweddle, and leading museums and libraries like the Lennox, American, Metropolitan, the University of Glasgow and other high sources.

The book is exceedingly interesting and instructive.

THE CRIMINAL, by Havelock Ellis. Illustrated Third Edition, London, England, Walter Scott, 1901. \$1.50.

This seventh volume of the Contemporary Science Series has reached a third edition in twelve years. It has had an extensive circulation in English and in translations. The literature of criminology has been steadily growing since this book first appeared. It is a full, though not verbose, encyclopædia of the mental and physical aspects of criminals. The valuable material of the Elmira reformatory has been utilized. Ellis, however, ascribes rather too much to the efforts of Lombroso in the study of criminology. Lombroso simply seized on the moral imbecility side of the earlier psychiatry. It is a singularly good illustration of the change of sentiment on this topic that Dr. Austin Flint in 1895 should urge that medicine prepare itself for "the task to which the medical profession will more and more be called in criminal administration" though in 1882 he supported the following resolution adopted by the New York State Medical Society at the behest of medical politicians: "The true function of the medical expert is to expound and in-

terpret the results of the pathologic conditions, and in the absence of disease he is not justified in drawing conclusions as to civil responsibility from moral manifestations of conduct, that department belonging exclusively to law." The change in Dr. Flint's opinion has been one forced upon many a socialistic physician by the logic of current events. The most emphatic expression of the change of public opinion in New York state on this topic has been the creation of the Elmira reformatory. The book is excellently illustrated and deserves a place in the library of every physician.

K.

KENKOW, (THE HEALTH). Our esteemed and talented medical friend and former pupil, Doctor E. R. Arita, has sent us numbers one and two of a new and valuable health journal edited and published in Tokio, Japan, in the interests of popular health. Dr. Arita is well qualified by professional training for this good and important work among his excellent and marvelously advancing people. He was a diligent, enthusiastic and capable student, wasting no time and always inquiring for facts and truth pertaining to health and how to maintain and restore it and has selected a congenial and fruitful field for the work to which he is so well adapted. We hope and predict success to the new and worthy undertaking of our much esteemed friend.

TEXT BOOK OF PSYCHIATRY by Leonardo Bianchi, Naples, Italy, 1901.

This installment of a work of psychiatry by the well-known Alienist and Neurologist, Bianchi, of Naples, contains an introduction and two chapters. The chapters are devoted to the anatomy and physiology of the brain cortex. The second part of the work will deal with the general principles of psychiatry. The third part will discuss the individual psychoses. The work when completed will contain about 600 pages. The work undoubtedly forms an obstacle in the way of the rather reactionary views just now appearing in psychiatry. The introduction in the present part

opposing the extreme localization views advanced by Hollander and others; denies that the anterior portion of the frontal lobe gives rise to projection fibers, but maintains that it is connected by association fibers with the rest of the cortex. It is hence the place where physiologic union of the sensory and motor products of the other regions of the cortex occur. In Bianchi's opinion the associative centers of Flechsig (with the exception of those of the frontal lobes) are merely evolutional zones belonging to the field of the special senses. The work is the most critical, original and clinically valuable that has appeared for a long time.

HYDROGEN IODIDE. SYRUP HYDRIODIC ACID (Gardner.)

By R. W. Gardner, pharmaceutical chemist, New York, U. S. A. The arguments relating to Gardner's

Syrup Hydriodic Acid are the result of many years of careful thought and investigation, and the conclusions stated have been verified by the clinical experience of many able and trustworthy clinical observers.

This interesting brochure contains a number of short clinical articles illustrating its therapeutic value and compatible combinations in prescription form with other indicated medicines in certain diseases. Gardner's name is a guarantee of chemical purity and therapeutic honesty.

A START AND A FINISH by F. A. R. is a parable on the substitution which is not all a parable but a pointedly told truth with a moral of destruction at the end of it.

The author's initials stands for Fighting Antikamnia Ruf and if you read what he says you will see that though his name be Ruf he is not Rough enough on criminal substitution. He finishes the substitutor with a discharge from service. He should have him in the "pen."

RILEY'S TOXICOLOGY is a concise and comprehensive little book for students and practitioners on the nature, effects and detection of poisons, with the diagnosis and treatment of poisoning. By Cassius M. Riley, M. D., Professor of Chemistry and Toxicology in Barnes Medical College.

It is published by the author and is one of the best text books for students issued from any press. It is accurate, succinct and labor-saving.

LA MIGRAINE ET SON TRAITEMENT. Par Professeur P. Kovalevski, Librairie Vigot Freres 23, Place de l'Ecole de Medecine, un volume in-18 3 fr. 50.

The advance of science bears fruit and this little book of the distinguished author is good fruit. This brochure will prove of inestimable value to the physician in the treatment of this troublesome malady.

NERVOUSNESS is a plea for the use of Neurilla in nervous disorders. If this medicine, which is a combination of the active principles of Scutellaria and Aromatics proves to be a substitute for the bromides as attested, it will be a therapeutic boon. Something similar to alternate with them in practice is needed.

The Co-Operation of the Medical Profession of the United States with the National Confederation of State Medical Examining and Licensing Boards, in Establishing Interstate Reciprocity for the License to Practice Medicine. By Emil Amberg, M. D., Detroit, Mich.

The Treatment of Syphilis, with Special Reference to the Best Methods of Administering Mercury. By Winfield Ayres, M. D., Genito-Urinary Surgeon, Bellevue Hospital, O. D. P., New York, etc.

Roentgen Rays in the Treatment of Diseases of the Skin. A review of recent literature and a personal experience. By William Allen Pusey, A. M., M. D., Chicago.

The Relation of Outdoor Life to High Altitude Therapy. By Charles Denison, A. M., M. D., Denver, Colo. Read before the Colorado State Medical Society, June, 1901.

A Short Sketch of the Surgical Treatment of Otitis Media Suppurativa. By Emil Amberg, M. D., Detroit, Mich.

Degenerative Results of Defective Heredity. By Chas. Denison, A. M., M. D., Denver, Colorado. Read before The Colorado State Medical Society, 1900.

Annual Report of the Essex County Hospitals for the Insane, Newark, N. J., for the year ending April 30, 1901. D. M. Dill, M. D., Supt.

Present Status of Interstate Reciprocity Concerning Licenses to Practice Medicine. By Emil Amberg, M. D., of Detroit, Michigan.

Devitalized-Air-Toxæmia, A Prime Cause of Tuberculosis. By Charles Denison, A. M., M. D., Denver, Colorado.

Christian Science Folly. By C. B. Burr, Flint, Mich. Reprinted from the *Clinical Review*, August, 1901.

The Casaphoric Treatment of Cancer. By G. Ben Massey, M. D., Philadelphia.

A Case of Raynaud's Disease. By W. A. Haley, M. D., of Durant, Indian Territory.

Fibroma of the Mesentery. By J. B. Murphy, M. D., of Chicago.

Imperative Conceptions. By Hugh T. Patrick, M. D., Chicago.

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PUBLISHER'S DEPARTMENT.

"I PRESCRIBE Hagee's Cordial of Cod Liver Oil Compound as a palatable upbuilder."—A. M. Carpenter, M. D., Professor of the Principles and Practice of Medicine and Clinical Medicine, Barnes Medical College, St. Louis.

SIMILAR TO THE EFFECT OF SUNLIGHT. (From *The Medicus*, May, 1901). The physiological chemistry of antikamnia, in disease, exhibits analgetic, antiperiodic, antipyretic and antiseptic functions. Its antiperiodic tendency is similar to the effect of sunlight, though differently expressed. However with antikamnia this latter function is materially aided when combined with other well-known drugs, such as quinine and the milder laxatives. The ideal combination I have in mind may be obtained in "laxative antikamnia and quinine tablets." To reduce fever, quiet pain, and at the same time administer a gentle tonic-laxative is to accomplish a great deal with a single tablet. Among the many diseases and affections which call for such a combination, I might mention la grippe, influenza, coryza coughs and colds, chills and fever, and dengue with its general discomfort and great debility. These tablets administered in doses of one or two and repeated every one or two hours are a perfect antiperiodic in malaria, and a perfect reconstituent tonic—an expression of solar life, light and energy in malarial anaemia. (L. P. Hammond, A. B., M. D., Rome, Ga.)

D. S. MADDOX, M. D., United States Examining Surgeon, Coroner Marion Co., Ohio, says: (*Med. Brief*) * * * For the control of pain, opium is and always has been the sheet anchor. But opium, pure and simple has many dis-

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advantages which render its use in some cases positively harmful. Opium is one of the most complex substances in organic chemistry, containing, according to Brunton, eighteen alkaloids, and an organic acid. The ordinary alkaloids, of which morphia is the chief, have the same objections as the crude drug. They constipate the bowels, derange the stomach, and worst of all, induce a habit which utterly destroys the moral and physical nature of the individual. While looking about me for some agent which would produce satisfactory anodyne and hypnotic results without the deleterious and pernicious after-effects of opium and its ordinary derivatives, I came upon the preparation known as papine. After a somewhat extended trial of this remedy I am convinced that it is the ideal anodyne. Although derived from the Papaver Somniferum it is singularly free from the objections of the ordinary opiates. It does not constipate; it does not derange the stomach; it does not cause headache; it does not induce any drug habit; it is safe and may be given to children as well as adults.

AFTER THE MEETING OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION, at Put-in-Bay in September, 1901, a large number of the doctors took advantage of their vicinity to Detroit to visit that city and inspect the laboratories of Messrs. Parke, Davis & Co. Among the company were such well-known men as Dr. Thomas Hunt Stucky, of Louisville; Dr. I. N. Love, of New York; Dr. Paul Paquim, of Ashville, N. C.; Dr. C. H. Hughes, of St. Louis; Dr. F. P. Norbury, of Jacksonville, Ill., and Dr. Thomas E. Holland, of Hot Springs, Ark. An entire forenoon was spent in going through the immense works and experts explained the different processes of manufacture in a manner that was intensely interesting. Some of the newer preparations of the firm such as chlorethane, mercarol and adrenalin, attracted special attention, but the department in which most interest centered was that devoted to the making of physiological tests with the view to the standardizing of drugs. Here too the gathering of lymph from



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the calf and the extraction of anti-toxins from horses were witnessed. The visitors were much impressed by the magnitude of the works and the evidences of elaborate scientific skill and workmanship which they saw all around them. In the evening there was a dinner at the Russell House, and thereafter the doctors went their several ways homeward all well pleased with their trip to the beautiful city which is so intimately identified with the drug industry.

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An assay showed the pills to contain fully (2) grains of a Quinine Salt, richer in alkaloid than, and for many reasons preferable to, the Sulphate.

Respectfully,

JAMES P. MILLWOOD,

Analytical and Consulting Chemist, Chemist at the U. S.
Naval Laboratory and Naval Department of Instruction.

MISS ELLEN TERRY, in an article in the Dramatic Number of *Collier's Weekly*, confesses that the longer she remains on the stage the more nervous she becomes.

THE IDEAL SURGEON IN 1363.—The following, written 1363, in the Grande Chirurgic of Guy de Chauliac, says *American Medicine*, might well be taken for a guide by modern surgeons: Let the surgeon be well educated, skilful, ready and courteous. Let him be bold in those things that are safe, fearful in those things which are dangerous; avoiding all evil methods and practices. Let him be tender with the sick, honorable to men of his profession, wise in his predictions; chaste, sober, pitiful, merciful; not covetous

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or extortionate; but rather let him take his wages in moderation, according to his work, and the wealth of his patient and the issue of the disease, and his own worth.

TUMOROUS.

Or the woes of a titled invalid in search of an appropriate specialist.

A tumor he developed on
A spot that's quite neglected;
No specialist for just that point
He anywhere detected.

So curiously was it placed,
That search from toe to crown,
You saw it not when he stood up,
Still less when he sat down.

From day to day the swelling grew,
So vast became that tumor,
You could not say which was the growth
And which Sir Francis Boomer.

And so at last it finished him,
Despite his numerous staff,
He explained the cause of death
In his epitaph;

"My ailment could not treated be,
The times were out of joint;
There was no specialist upon
That Perineal point.

"Some doctors find their work before,
And others theirs behind;
But none devotes attention to
The spot which I've defined."

— "J. B.," in *St. George's Hosp. Gazette.*

PROF. SCHWEITZER VISITS DETROIT and Parke, Davis & Co.'s plant and calls the latter a marvel. Prof. H. Schweitzer of Heidelberg University visited Detroit for the purpose of giving expert testimony in the case against Detroit men charged with counterfeiting trademarks owned by Farbenfabriken, Bayer & Co., of Elberfeld, Germany.

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WIDOWS OF THE PRESIDENTS. The United States Government has always bestowed a fostering care upon loved ones left behind by Chief Executives, and in a number of instances it has been joined in this work by a solicitous public. The provisions that have been made for Mrs. Grant, Mrs. Garfield and Mrs. McKinley, and the widows of other famous national personages, is published for the first time in the January *Delineator*, in an article by Waldon Fawcett, entitled Notable Pensioners of the Nation. The illustrations which accompany the article show the present homes of these illustrious women, with some of the interiors of the memorial rooms.

THE
ALIENIST AND NEUROLOGIST.

VOL. XXIII. ST. LOUIS, APRIL, 1902. No. 2.

OUTLINES OF PSYCHIATRY IN CLINICAL
LECTURES.*

By DR. C. WERNICKE,

Professor in Breslau.†

Definition of the acute psychoses with respect to the chronic—Presentation of a case of acute psychosis almost recovered—Conditions and color of the explanatory ideas—A few new sources for the formation of delusions; from analogy, defective attention, pathological formation of associations.

LECTURE EIGHTEEN.

THE acute psychoses are primarily characterized by their mode of origin; we will have to regard all those mental disorders acute, in accordance with the use of the term in other diseases, which develop symptoms of significant intensity within a few hours or days. Besides it is to be stipulated as to the further development of the disease whether and how long it retains the acute character, or whether it recovers or passes into a chronic state. In the latter instance the acute psychosis becomes the acute initial stage of a chronic psychosis. With the same right, acute stages of the chronic psychoses occurring in other than the initial period will have to be included among the acute psychoses.

*Continued from the ALIENIST AND NEUROLOGIST, Vol. XXI, No. 2.

†English by Dr. W. Alfred McCorn.

Still it would little accord with the complex actual conditions and the use of words based thereon, if we would regard the length of course alone as the decisive indication in designating a psychosis acute or chronic. Rather the quality of the disease type, the "acute character," which adheres to it, owing to a rapid development, an indication of such independence, that even on longer duration of the disease, or, where the condition of a rapid development does not exist, it will decide in favor of an acute psychosis. This shows the special position, that diseases of the nervous system must be given: a sciatica or other neuralgia of years standing, an old tabes may be attended by the most intense lacerating pains, the extremely chronic trouble of brain tumor is attended at well specified periods by the most acute brain symptoms, *i. e.* a combination of headache, vertigo, vomiting and general convulsions. Thus the acute reactions of the nervous system are seen to be very generally dependent on irritation, which very often has no perceptible connection with the gross disease processes—the anatomical tissue changes. In our efforts to more definitely define the acute psychoses, we are consequently referred to other, more exhaustive criteria. I refer to my remarks* on the mutual relation of content and action of consciousness and then to the result, that the pathological changes in the content of consciousness must form the chief topic of our consideration, as they were in the chronic psychoses. We must now add, where this province is entrusted to us; the permanent or fixed changes in the content of consciousness. But we will not hesitate to further conclude, the pathological changes in the content of consciousness form the domain of the acute psychoses.

If you will now call to mind the scheme† I have given for the derivation of the symptoms, you will at once observe, that it is also a scheme of the pathological changes in the action of consciousness, changes, which in their totality we have known as disorders of secondary identification. It would be the task of an independent theory of

*See ALIENIST AND NEUROLOGIST, Vol. XX, p. 548.

†See ALIENIST AND NEUROLOGIST, Vol. XX, p. 153.

symptoms of mental disease to discuss those derived from the scheme, to put their occurrence and significance in the different mental diseases in the proper light. Still any attempt of the kind would take us too far from our real task of becoming acquainted with actual causes of disease, so I will confine myself to speaking somewhat fully of only the most important theoretically, of these disorders of identification, which are indispensable to the general pathology of mental diseases. They are chiefly those symptoms, which come within the province of false sensations or intimately connected with them. Besides I will have to confine myself each time in presenting patients to elucidating the symptoms, that are new in their significance with respect to our scheme.

Simple reflection will verify, that the symptomatology of the acute mental diseases cannot be exhausted by the symptoms derived from our scheme. Still we had seen that the action of consciousness produces the content of consciousness, so that a changed action of consciousness must of necessity result in changes in the content of consciousness, and we could define the acute mental disorders as the changes in the content of consciousness, we see effected within a certain time.‡ We are now often able to assume *a priori*, that these changes in the content of consciousness will be less fixed or of shorter duration in the acute mental diseases than in the chronic. Nevertheless the clinical significance of the disorders of the content of consciousness in the acute mental diseases is so essential and decisive for the fixation of a definite disease type, we feel that any theory of disease, which would neglect this point of view, must be biased and incomplete, insufficient for the great amount of clinical data. If in the chronic psychoses or paranoiac states we could confine ourselves in the main to the changes in the content of consciousness, you will now understand how much more complicated is our task in the acute psychoses, where the changes in the action of consciousness are equally as significant as those in content.

So it is that the sequelae, which in the chronic psy-

†See ALIENIST AND NEUROLOGIST, Vol. XX, p. 548.

choses we say follow a number of elementary symptoms, are in great part manifested in the acute psychoses, even find there a broader application, *e. g.* the principle of explanatory delusions. And as explanatory delusions do not in themselves represent a pathological action of the organ of consciousness, we will become acquainted in the acute mental diseases with *new sources of delusion formation*, which are connected with normal mentality. The experiences we have had in this respect, form in a certain measure a supplement to the theory of the paranoiac states and therefore most properly follow them here. A patient selected for discharge, who has been free from psychotic symptoms for three months, offers a favorable opportunity. K. is a mechanical engineer of twenty-seven, with an academic education, who is to be regarded as recovered from an attack (the second) of a severe complicated mental disease, even to the defective insight for a few of the symptoms at the time of the acute onset. His well retained memory of the whole period of his illness amounting to about $1\frac{1}{2}$ years, his intelligence and training in scientific observation render him peculiarly suited to afford information as to certain symptoms.

I will say merely that the patient fully describes the voices and autochthonic ideas at the time of his illness. We gather from this merely the lesson, that these elementary symptoms of the paranoiac state generally occur also in the acute mental diseases. The explanatory ideas, the patient has added are more important for our actual purpose. He was always fully aware, that the voices, whose material embodiment he did not see, were not to be explained physically, and so there was only left to him the assumption of supernatural action of "spirits," as much as he at first resisted the evidence of his senses. He then explained the strange thoughts as inspired by these spirits; that it did not here result in a delusion of physical persecution is certainly to be ascribed to the man's scientific training. We also see from the example, that the *explanatory delusions* are no less important *in the acute mental diseases* than in the chronic. A certain degree of retained

intellectual power is necessary to the hypothesis: logical requisites and logical ability must be present for an explanation of the strange manifestations. In general this hypothesis corresponds to a certain degree with retained self-possession as it was usually present in our patients. Besides the content of the explanatory delusion is shown to depend on the patient's individuality. How much this is the case can be seen from a second example. Among the thoughts inspired in him, our patient has also stated, that he has been in the world at different times as Wotan and Alfred the Great. He has therefore believed in transmigration. From my question if he had regarded it an act of resurrection, he developed the idea, that every person in his personality is to be looked upon as a definite arrangement of material part, and that he has considered it possible for the same arrangement of molecules to be repeated at different times and so the same persons be produced. As much as he now laughs at the assumption, it must be admitted that only a person with a scientific mode of thought would be able to formulate such an explanatory idea.

For the occurrence of complex explanatory ideas, as well as for the estimation of the autochthonic thoughts as such, a certain degree of self-possession must be inevitably presumed. If we accept that these false judgments, like those mentioned of having lived twice before at different times, could have been formed in this way, the smallest degree of retained power of judgment is necessary for such thoughts to be recognized as not originating according to the normal type. We will not then be astonished, if the acute insane, who lack self-possession, are sometimes in a state of complete confusion, strange ideas are obtruded and manifested, without their criticising them or attempting an explanation. In this way I recognize the occurrence of primordial delirium (Griesinger) in the acute insane, as I have formerly* stated in speaking of Friedmann's book on delusions. Although this author has adhered to his stand-

*See ALIENIST AND NEUROLOGIST, Vol. XXI, p. 315.

point, carried much too far in my opinion in his new work[†] on the origin of delusions, and tried to base them on comparative ethnology, it is still contradictory to the admitted exception of clinical experience. Besides you see at once, that the origin of imperative conceptions, or rather the correct judgment, which the patients hold toward these ideas arising from pathological stimulation, is associated to the like preliminary condition of a certain degree of self-possession and power of judgment. We will observe in the future, that these gradations can be obliterated in acute insane by spontaneous thoughts and replaced by Griesinger's primordial delirium, because the stormy affects, which disturb coordinated thought, are relatively frequent in acute mental diseases.

The patient describes a form of false sensation, which has not yet been met with and which he called a vision. He believed to have experienced whole scenes and situations during his illness, which had in part happened at other times. Thus for example, he said he saw his father on the scaffold in a French marshal's uniform, below the threatening multitude, heard the howl of the rabble and the executioner exclaim: "You must go." To my questions the patient states that he then believed himself taken back to the time of the French Revolution and did not doubt the reality of the event, which he now calls a vision. We will later have to study this form of false sensations somewhat more closely under the designation of visionary hallucinations. The conclusion drawn from it is of interest to us here. He believed himself transferred to the other lands and other times and explained this by sorcery. But my objection, that he should not have believed in the reality of the experience, because his father had not lived at the time of the French Revolution, he confuted very remarkably. He stated to have then believed that his father and other persons, like the supervisor *e. g.* could have lived before at different times. We evidently have here a conclusion from analogy as the source of delusion forma-

[†]Weiters zur Entstehung der Wahnideen und über die Grundlage des Urtheils. *Monatsschr. f. Psych. u. Neurol.*, 2 Bd. 1. H.

tion and the patient assures us, that he had reached this conclusion, because he had been firmly convinced of his prior existence. You remember the patient[†], who claimed to have a double and generalized that everyone has one. You see that the insane make practical use of Goethe's proposition: "What happened to one, happened to others," a source of delusion formation of inestimable importance. But this *delusion formation by conclusion of analogy* will have to presuppose a relatively coordinated ability to think.

We will see later that the combined hallucinations of several senses, of which you have just seen an example, are preferably associated to visionary conditions. In this case the clinical history has shown, that the patient often seemed to be completely abstracted and oblivious to what went on about him. Certain peculiar assertions made then, he now is able to explain in a satisfactory and instructive manner. The patient had once expressed his astonishment, that the supervisor could have disappeared through one door and at the same time come to another. Another time that his food stood before him without having been brought in, an occurrence which reminded him of the fabulous "table be set." Both occurrences had seemed to him supernatural and marvelous. Now he says that it was an error in observation owing to faulty attention. He has often been so occupied, e. g. with false sight and hearing, that he has not sufficiently taken account of what went on about him. He has usually had his eyes closed, a statement I can confirm. We have here an instructive source of *delusion formation*, according to the principle of the effort to explain, *in the diversion of attention by internal occurrences*, and we see how very insignificant and ordinary events in this way appear to the patient in an incomprehensible and mysterious light and according to individuality may lead to different explanatory delusions, here to the assumption of sorcery. We are able to assume that the mysterious, disorientating nature of these events is manifest in any case entirely irrespective of the fact whether

[†]Rother, *Sce ALIENIST AND NEUROLOGIST*, Vol. XX, p. 552.

explanatory delusions follow or not, according to the degree of ability to think.

As we continue our examination of patients we soon meet with a new, still unknown source of the formation of delusions. At a certain period of the disease the patient had called on his physician and later made the startling statement, that he considered him in a certain measure his son, also intimated that one of his fingers represented the person of the physician. We later learned that each of his fingers represented a certain person, one his father, one his mother, one Napoleon, while to the question what person a certain finger represented he was in doubt. The patient occasionally spoke of the legal position of the pater familias according to the Roman law, evidently based on this delusion. He now gives the following explanation: he got the idea that one of his fingers represented the person of the physician, because every time he saw him, even in visions and when he heard his voice a peculiar sensation occurred in this finger. It is the same with the other fingers. The patient is unable to describe the sensation more definitely, but states it was not a pain. We here see a new formation of concepts in consequence of a pathological experience, simultaneous with the occurrence of definitely localized pathological sensations, either real or pathological perceptions of a definite content. We will term this process *pathological new formation of associations* and will find it very frequently in acute insane, if we are rarely able to obtain such a clear account of it. Besides the patient now definitely denies on being urgently questioned, that he has considered the one finger identical with the physician, he only meant that it has a definite relation to him.

The example we have just become acquainted with will certainly recall well-known data. For instance the young man,* who became sexually excited every time he saw his father. I presented him as an example of somatopsychical delusion of relativity, but we cannot doubt, that a process of pathological new formation of associations is its basis. Other examples of this connec-

*See ALIENIST AND NEUROLOGIST, vol. XXI, p. 274.

tion between somatopsychical delusion of relativity and pathological association are presented by our patients. Once during his illness he had begged that his bed should not be meddled with, because blood is thus drawn from his heart, for a long time he could not be touched, because it caused him discomfort, once declared his head would burst as soon as one of the attendants said a certain word. All this we may regard as an example of somatopsychical delusion of relativity. It is readily seen that this pathological association may exercise a decided influence on the relation of the patient toward certain persons and chiefly his actions. Many wonderful, strange actions, wholly incomprehensible to normal thought, but also sometimes dangerous and unaccountable at any rate may be the result of this pathological new formation of associations.

A favorable chance affords the opportunity of demonstrating *ad oculum* a similar state of diversion by internal processes as described by the patient C. It is a matter of a very complicated disease and likewise in a young mechanic. It is impossible to get a word out of him. He gazes about the auditorium abstractedly and does not seem to heed my questions. Once he turned to me, called me by name, showing that he is orientated as to his surroundings, and at my request correctly repeated the Pythagoric theorem. He refused to demonstrate it, as it was too hard for him. Suddenly and wholly spontaneously he asserted in an animated tone: "You do not know Saxony and England." But he can again be fixed further. He shows he is greatly occupied with a supposed abuse by the attendant already referred to, tells of it in detail, constantly returning to it. Here in Breslau everything is not effected by natural means. Voices had nominated him Mayor of Breslau. The voices came from the air and the most different directions. They are heavenly voices. He comes to this conclusion, because he sees nothing. Besides thoughts are inspired in him. He is Christ as well as a Jew, has existed once before, confuting my doubt by the evidence of the third article of the Creed, which refers to the resurrection of

the dead. Suddenly and entirely spontaneously he said very animatedly: "career."

You see he understands my questions and promptly responds, still it must be remarked that he occasionally looks abstracted and answers questions by the mere query: "What?" He apparently requires a constant exertion of action to external stimulus and otherwise seems to sink into a sort of dream with active false sensations. Nevertheless he is wholly attentive in the meantime and shows he is able to correctly reproduce a number of four units ten minutes after it is given him. He promptly gives the date of his first acute illness five years ago, is aware of a subsequent relapse and considers it very possible that he is now sick again. We learn on inquiry that he has no headache, but very unpleasant feelings in the head, which he describes as boring and tearing, and are the result of the abuse by the attendant. If this is gone into more fully, he completes this statement: abuse by relatives committed at the same time. Suddenly with a glance at the attendant, who has accidentally gotten by from the chair: "I am not to blame." Claimed that this has been said of him. On leaving I tried to explain to him the purpose of the demonstration. As he went out he replied: "But you also direct that which does something to me. Every officer has his honor, I am no common man."

In this patient we see an alteration of very different states of consciousness, first a diversion by mental processes, which render him almost inaccessible and at most reminds of the physiological state of so-called abstraction, then a momentary fixability and, in spite of many alterations in this condition, a well retained ability to attend. The state of abstraction reminds of delirious conditions and seems combined with a visionary clouding of consciousness. No more abrupt contrast is conceivable than in the attentive, perfectly clear consciousness immediately after. As internal stimuli, which are closely intermingled with his clear consciousness, we may establish abnormal sensations, autochthonic ideas, simple and disorientating phonemes. The disorientation chiefly affects the autopsychical, next the

allopsychical domain. It is very possible that this patient will tell later, in case he should recover from this second relapse, of the mysterious occurrences during his illness and even be able to correctly explain them afterward by the diversion of attention, as the patient K. has done.

Delusion formation by analogous conclusion, diversion of attention by events of the world, and pathological new formation of associations are quite often met with in the chronic psychoses. But with respect to the other much more readily comprehended changes in content, already familiar to us, they are of subordinate importance. Differently in the acute cases, where in subsequence of the manifold alterations in the disorders of content, at one time the former, again the latter dominates and by their influence on the patient's action demand consideration. In this respect our patient's report is instructive and must not be neglected. Understanding of the acute insane is far more difficult than that of the chronic cases.

(*To be continued.*)

GALL'S SPECIAL ORGANOLOGY.* THE SEXUAL INSTINCT.

STATEMENTS AND CRITICISM.

By P. J. MOEBIUS.†

GALL'S STATEMENTS.

THE sexual instinct is a function of the brain, not of the genitals. Gall discusses this statement in detail. He emphasizes the awakening of the instinct in some children before the ripening of the sexual glands, its continuance in old age, in castrated persons, in cases where the uterus is missing, etc.; he especially refers to the explanations of Georget. There is no doubt that the sexual instinct is an elementary power. Its organ is, according to Gall, the cerebellum.

In speaking of the different organs Gall relates how he made his discovery. This naiveté has cost him dearly. His ideas came to him partly at odd occasions. His adversaries have found therein ample opportunity for ridicule. Concerning the sexual instinct he made his discovery in the following way. A young widow suffered from nervous attacks, during which an *arc de cercle* was formed and which evidently ended with orgasm; preceding them she had a feeling of tension and heat in the neck. Gall placed his hand against the back of the head of the lady, felt the heat and noticed that the head was extraordinarily rounded below the *prominentia occipitalis*. The patient

*Comp. Jahrbücher CCL xiii, p. 81, 193.

†Translated from Schmidt's *Jahrbücher, der gesammten Med.* Bd. CCL xvii, by Chas. D. Isenberg, M. D., New York.

confessed that she always had very strong sexual desires, and that the more passionate these were, the stronger the sensation in her neck would be. Then Gall remembered that he had made similar observations before, that old authors (Apollonius of Rhodos, Van Der Haar) had referred to the connection between sexual excitement and sensations in the neck, that Tissot had described paralysis of the muscles of the neck after opisthotonic spasms in persons given to masturbation. He made further investigations and came to the following conclusion:

The sexual instinct stands in direct relation to the size and convexity of the *os occipitale*. The greater the distance of the *processus mastoidei* from each other, the more the back of the head is like a ball below the *prominentia occipitalis*, the stronger the instinct, the nearer the *process mastoid* are each other, the flatter the lower occiput, the less prominent the instinct. As the *fossae occipitales* are filled out by the hemispheres of the cerebellum, we can conclude from the results of the palpation as to the size of the cerebellum. Therefore the sexual instinct is proportional to the size of the cerebellum.

Then follows a long list of "proofs." The conditions in animals find a very detailed discussion. Propagation is not dependent on the cerebellum, but only the conscious events which lead to and accompany it. All animals which copulate have, according to Gall, a part of the brain, which corresponds to the cerebellum, even if the hemispheres appear but in the mammals. Of importance is that the growth of the cerebellum and the sexual instinct are in close connection. In the newly born babe the cerebellum is the least developed of all parts of the brain, it forms only 1-9 to 1-20 part or still less of the brain. In the adults it forms 1-7—1-5 part. The full development of the cerebellum is reached towards the eighteenth or twentieth year. Soemmering errs in his assertion that the cerebellum is fully developed within two or three years. Apart from a few exceptions Gall has never found the relation between cerebellum and cerebrum before the sixteenth year the same as in the adult. These relations are also quite dis-

tinct in the skull. In the newly born the *proc. mast.* stand very near each other, the part between them is entirely flat. Already in the second year they grow apart, the occiput vaults downwards. Still before puberty the distance between the *proc. mast.* remains smaller than that of the *protub. pariet.*, whilst in the adult both distances are about equal. In old age the cerebellum becomes more or less atrophic. When we regard the *fossae occipitales* from within, we find the bone, apart from those cases in which the skull is thinner in its totality, less transparent than in persons in their maturity, we see that bony mass which has been formed on the interior surface, sometimes also on the rear surface of the *ora petrosa*, so that the space for the cerebellum has become much smaller.

In cases of very premature puberty and very long continuance of potency, we find the bone which surrounds the cerebellum very strongly vaulted. Gall relates that he found in Paris a girl 9 years old, who seemed to be a mature woman, and a boy of 5 years who looked like a boy of 16 and had large genitals, a beard and a deep voice. The boy had sexual intercourse, his neck was broad and full, though the other parts of the head corresponded to his age. Similar conditions he found in a boy of 10 years in Leipzig, who had ravished a girl; in a mulatto of 3 years in Paris who, though his genitals were like those of a child, had an insatiable sexual desire. It is evident that in children who already in the first years of their life are given to incessant self-abuse, central processes will have to be looked upon as the cause. The same must be true in adults, who have no sexual desire though they have entirely normal genitals. Gall has always found in the latter cases a feebly developed cerebellum. He mentions a gifted physician in Vienna, a soldier and an Abbé with horror *feminae*; the skulls of the latter two he gave as illustrations: the distance of the *proc. mast.* was hardly three inches; the part of the occiput between them was entirely flat. The head of a woman who, though she was married and had had a child, was entirely indifferent toward men and who never had had the least sensation of

voluptuousness, was large, even like that of a man, but the neck was narrow and flat. This formation can be seen in the portraits of Karl the XII, of Newton, Kant, and of Thomas a Kempis, who were frigid. For a contrast Gall gives skulls with large *Bosses occipitales* (one is that of an "erotic insane;" another that of an elderly bigoted lady, who always kept two lovers, and otherwise had a very small skull; another is that of a soldier's jade; another one is that of a celebrated physician, who when almost 50 years of age had four mistresses after he had buried three wives, etc.)—and refers to the portraits of Piron, Mirabeau, Nicolas Chorier, Franz I. In persons with an excessive sexual instinct and inclination to their own sex Gall has not always, but generally found *la neque large et voutée*. He said that such women were mostly strong and like a man, whilst the men had *un physique effeminé*, round limbs, much fat, large mammae, a round abdomen and feminine taste.

In many animals also, a broad neck signifies sexual strength; for example in bulls, stallions and rams. In a stable near Berlin, Gall saw five bulls, one of them had a weak neck and Gall declared that this one must be less strong than the others. You are right, answered the proprietor, the minister v. Beyme, he is fattened because he is of no use in the herd. In Vienna all connoisseurs of doves knew, according to Gall, that a male pigeon with a strong neck is keen on the doves; they used such birds in order to abduct the female pigeons from other dove-cots. Rats, mice, moles and guinea-pigs have according to Gall, a relatively large cerebellum.

Generally the sexual instinct is stronger in the male than in the female. This is evident especially in such animals, the females of which let the males approach only during the time they are in heat, though the males are always potent. Also in man the sexual desire of the men is, in spite of some exceptions, stronger than that of the women. It does not depend on the tallness and strength, for great and strong men are not infrequently sexually inactive, and small ones very active, but on the fact that

the male cerebellum is larger. When we compare male and female cerebella of man or of animals, (best in water), we see the difference. There is no fixed proportion between cerebrum and cerebellum. The above mentioned physician in Vienna had one of the largest heads and still a small cerebellum, the bigoted lady had perhaps half as much cerebrum as the physician, but more cerebellum. Gall makes accurate statements about the cerebellum of animals, brings also many pictures of brains and skulls of animals. He found that the part of the skull which contains the cerebellum is always fuller in the males than in the females.

Some animals irritate the neck of their mate when sexually excited; for example the tom-cat bites the neck of the cat, the bitch sometimes the dog, the female sparrow picks the neck of the male before the copulation.

In man and animals, who were castrated early in their life, the cerebellum is smaller than in non-castrated ones. The Bosses occipitales are quite flat, the bone is thicker, uneven. This can easily be seen in the skulls which he gives as an illustration. Gall asserts removal of one testicle causes degeneration of the opposite half of the cerebellum. He relates, that repeatedly he had young rabbits castrated on one side and killed after six to eight months; the opposite side of the cerebellum was invariably smaller, the Bosses occipitale was flatter. He also mentions observations in man. A list of medical reports follows: diseases of the testicle on one or both sides, degeneration of the cerebellum crosswise or on both sides.

Other medical reports are meant to establish the influence of injuries of the cerebellum on the testicles. They are mostly the observations of Baron Larrey on wounded soldiers. In order to give an idea about them some shall follow here.

A soldier received a shot in the neck, which severed the sinews of the muscles of the neck and grazed the os occipitale. Paraplegia of the legs, amblyopia and hardness of hearing were the next consequences. Then the testicles became atrophic. After two months recovery took place.

A rider received a sword-cut, which severed the muscles of

the neck and the os occipitale and opened the dura mater. When the bottom of the wound was touched vertigo and cramp-like movements followed, but no pain was caused. Larrey removed the piece of bone and tried to heel up the flap. But all the time a light colored fluid came out of the wound so that no healing resulted. In the first days the patient lost sight and hearing of the right side, and felt a strong pain along the spinal column and a prickling sensation in the testicles. They became atrophic so quickly, that the left testicle was after a fortnight only as large as a bean; the patient, who before had great sexual desire lost *l'idée ou le souvenir des jouissances qu'il avait goutées auprès d'un grand nombre de femmes*. Later on his state became worse and on the thirty-ninth day the patient died. The right hemisphere of the cerebellum was discolored though there was no suppuration. Oblongata and spinal column were of a dead white and firm, smaller by about a quarter.

A very strong soldier forty years old fell from a considerable height upon the left side of his head. Consequently a hemiplegia of the right side with anarthria had developed. Larrey fought against the disease with large Spanish flies, which were put on the left side of the head, with the thermocauter etc., and after a few months the patient was cured. But four months afterward the man died of typhoid fever. The dura was discolored on the left side, the whole hemisphere was very succulent, firm and a tubercule stéatomateux enclosed the arteria basilaris. The fossae occipitales were remarkably small. The cerebellum was by about one half smaller, than one could expect, and the testicles were only as large as a bean, very soft, the penis only one and one half inches long.

An extraordinary observation has been made by Gall himself.

A boy thirteen years old began to masturbate incessantly. Then he had incontinentia urinae and vomiting. The legs which had been very weak from the beginning became entirely paralysed. The pupil did not react any more, the patient could see only in the interior angle of his eye

and became entirely blind. After the death Gall found hydrocephalus internus and in both hemispheres of the cerebellum "old thickened pus," more in the left than in the right side. The pons was considerably atrophied and somewhat discolored. The testicles were very small and soft, the right one almost entirely gone.

The next part of Gall's book discusses the "manie érotique." Gall attacks the opinion, which was prevalent in his time, that the "location" of the mental diseases called erotic mania were the genitals. He says that there is always a disease of the cerebrum and the erotic symptoms depend on the irritation of the cerebellum. The genitals and the cerebellum are in reciprocal relation. The abuse of those increases the central irritation and this leads to morbid states of the exterior parts. The assertion, that too great abstinence produces erotic mania, Gall does not want to condemn all at once, but he warns earnestly of deceptions and apparently does not share this superstition. The medical records which he quotes are partly of his own observation partly of Pinel's. What Pinel describes as manie érotique is apparently circular mania. In some cases it seems to have been dementia praecox, in others progressive paralysis. Gall has observed in the patients, whom he has seen himself, always a large cerebellum (viz. a broad neck and a strongly vaulted os occipitale.) The same conditions he found in the idiots. He says it is not true, that they all were voluptuous, rather many feeble-minded and cretins lack sexual instinct entirely. In these the cerebellum was very little developed. On the contrary it is large in sexually excited idiots, and sexual excesses are indulged in all the more, because the defective development of the cerebrum does not form a counterpoise (*c'est un singe en chaleur.*) Gall has found these statements always confirmed and quotes some examples. Some other examples prove the fact that women, the uterus of whom has been destroyed by a disease or who are born without an uterus, can have a vivid sexual desire.

The observations of the lecturer on pathological anatomy, Serres on cerebellar hemorrhages, are related in

detail. Serres thought to have found out that the apoplexia cerebellaris is accompanied by erections and ejaculations, so that the diagnosis could be made from the irritation of the genitals. He relates six positive and one negative observations. Those are always grave apoplectic attacks. The patients, who were in a stupor or coma, had red, hot, swollen genitals, the turgor of which increased to erections, which lasted for hours and repeatedly caused ejaculations. After the death he found hemorrhages in the cerebellum, sometimes in one spot sometimes in more, either in the vermis only, or in the hemispheres as well.

The two first observations of Serres are the following:

A man thirty-two years old was brought during the night to the Hôtel Dieu. He had an apoplectic fit during the coitus. His face was red and hot, the pulse strong and frequent, the respiration slow and irregular. The patient was entirely unconscious. From time to time the body twitched and became rigid like in a tetanus. The penis was erected, the genitals were hot, whilst the limbs were remarkably cold. The patient died after ten hours. The erection ceased four hours before death.

The supposition, it might be the effect of cantharides, was unfounded. Some examinations which were made with the contents of the stomach and the intestines were negative. (?)

The genitals were still swollen at the necropsy and red, the glans was covered with violet spots. After the opening of the skull the strong injection of the cerebellum was striking. Nothing special could be found in the great hemispheres. The posterior corpora quadrigemina and the crura cerebelli had the color of red wine and were slightly inflamed (*phlogosés*), also the upper vermis. In the latter several small hemorrhages were found, one of which had the size of a rifle ball. The cerebellar hemispheres were only remarkably succulent.

A man 55 years old, who had been very active sexually, became unconscious during the night. It was noticed that his penis was erected. In the morning he was brought into the hospital. The face was red and swollen, the pulse

full, strong and frequent, the respiration irregular. There was stupor, hemiplegia of the left side, tonic spasm of the right side. Consciousness returned. In the evening there occurred another attack which produced coma. Strong erection, swelling and redness of the scrotum, ejaculation. Gradually the patient became worse, rattling, on the second morning again ejaculation. Death at 9 o'clock.

When the skull was opened black blood flowed. The sinus of the dura were filled with black blood clots, the vessels of the pia were strongly swollen. The cerebrum seemed to be normal. The cerebellum was strongly injected. When the vermis was opened the surface looked red, as though saturated with blood. In the right cerebellar hemisphere there was a cavity filled with blood, the walls of which were lacerated. In the fourth ventricle black blood.

In one of the cases in which there had been no erection, a hemiplegia of the right side had occurred without an apoplectic fit. The patient had gradually become comatose. A hemorrhage was in the lower part of the left cerebellar hemisphere. Gall says that it depends on the locality of the lesion, whether genital irritation occurs or not. Serres came to the conclusion that the vermis has relations to the sexual instinct, that the hemispheres take care of the maintenance of the equilibrium.

The case of Falret deserves a short notice.

A man about 50 years of age was brought into the Hôpital de la Pitié in a comatose state. He looked like a man who had an apoplectic fit, but the penis was erected. The cerebral sinus and the vessels of the cortex were strongly filled. The brain itself did not seem to be changed. But in the upper vermis a great hemorrhage was found, which extended to the right and left into the hemispheres. The crura cerebelli ad corp. quadrigemina were very hyperemic. The fourth ventricle was filled with blood.

Finally Gall discusses the cerebellum experiments of Flourens. He arrays against them partly other experiments made by himself and Spurzheim, Fodéra and others, partly sundry reasons. The locomotor disturbances, which were

observed in injuries of the cerebellum, he refers to the parts with which the cerebellum is connected by its fibres, especially to the medulla oblongata.

CRITICISM.

The essay by Gall on the sexual instinct, which fills in the 8vo edition almost 200 pages, contains several parts, which are not necessarily connected with each other, that is to say the different assertions do not stand and fall with each other, one can be true when the other is wrong.

1. Gall asserts that the sexual instinct has its organ in the brain, or in modern language a cerebral centre, that is to say the sexual desire and feeling is confined to a certain place in the brain. *A priori* such supposition does not seem to be necessary. For the art instincts the postulation of a cerebral centre seems to be natural, as no special part of the body corresponds to them. But the sexual instinct has its special apparatus and this in connection with the cerebral cortex in general seems to answer all demands. The sexual apparatus, that is the genitals and the cells in the spinal column connected with them by in and outgoing nerves, is a very ingenious machine, which to a certain extent acts automatically. It is connected with the cerebral cortex by ascending and descending fibres, can be started and checked from the brain, but also influences the cerebral functions. The respective parts of the brain are the same, which are active in perception and volition, namely the sense spheres, the so-called motor centres and the parts of the cortex lying between them.*

That this manner of presentation is insufficient or needs a further extension is clearly proven by pathological experiences. They are the same reasons from which Gall also proceeded. We find that the sexual instinct of persons, the genitals of whom seem to be quite normal, is very different and that its deviations correspond to other variations of the cerebral activity. Sometimes the instinct

*Perhaps beside the nerve stimulation we have to think of irritation of the brain by products of the sexual organs, which circulate in the blood.

is so weak that there is practically none whatever, and such persons show other mental abnormalities, they descend from mentally abnormal persons; but generally nothing special can be found in the genitals. It is similar with the qualitative deviations of the instinct, which recently have been studied with such great care. Indeed the writers, who like v. Krafft-Ebing have made a detailed study of the psychopathia sexualis, feel the need to make the supposition of a cerebral centre of the sexual instinct. They find that there is no proportionality between the sexual and the other mental attitude. If the first would be dependent on the quality of the brain in general, the various deviations ought to be in the same direction. But that is not the case; on the contrary the different instincts show a great independence, so that the most various combinations are found. Moreover the sexual instinct can be present without the existence of any sexual organs. This remains unintelligible, if we do not ascribe the instinct to a cerebral organ, for without this the brain ought to be sexually indifferent, when the sexual glands and the stimulation coming from them fall away.†

When an empire expands it needs more officials. Thus apparently cerebral apparatus are added in the higher animals, which were unnecessary in the simple relations of the lower animals. In our case the spinal sexual apparatus in connection with the perceptive organ is insufficient, it needs a representative in the brain who sees to its rights. But it is very difficult to judge inwardly these relations, because the instinct comes from the unconscious. We see its effects and the disturbances it makes, we conclude from them to its power, but that which really acts and under certain circumstances subjugates everything to itself, we do not recognize and there is no hope for a better understanding.

† I should not like to emphasize too much the statements about the sexual instinct of the castrated and unripe, because regarding them we cannot talk of a real sexual Instinct, as far as we understand it to be the "love," the desire of the man "with his whole soul" for the woman. If somebody has only the penis, he perhaps wants only the tickling sensation which can be had without a woman. About fifteen years ago I treated a student whose testicles had been amputated by a Berlin surgeon on account of invincible inclination for masturbation. The impulse for masturbation was as strong after the operation as before. I do not know if it subsided later.

Perhaps in a future time the anatomical investigation could give some suggestions, if the course of the paths which connect the brain with the sexual organs, could be ascertained accurately. We can presume that an organ of the sexual instinct would have to be sought in the oldest parts of the brain; it would be nonsense to seek it in the frontal part of the brain, we would perhaps have to think of the neighborhood of the parts which represent the sense of smell. After all we can make no secure assertions, but Gall's supposition has much in its favor.

2. Secondly, Gall says, that the rounding and breadth of the os occipitale below the eminentia occipitalis is proportional to the strength of the sexual instinct. In fact there are great differences in the formation of the os occipitale, as can easily be ascertained in every collection of skulls. The distance between the proc. mast. is sometimes large, sometimes small; the os occipitis in some rounded like a ball and in others flat. Even when Gall lived, the nonsensical assertion has been made that we could not prove these things in the living person, because the muscles of the neck hinder the palpation. It is sufficient to touch a few heads to comprehend the falsity of this assertion. Generally we can see what form the os occipitale has, when the neck is free from hair. By putting the hand to the neck we can convince ourselves at once. Supposing, that in the cases described by Gall the coincidence of a strong sexual instinct with a strong development of the os occipitale, of a weak instinct with lesser rounding, should have been accidental, we have to ask, what has been the result of other investigations. As far as I know, the adversaries of Gall did not make a statement at all; they have been content to attack the cerebellum hypothesis. But the adherents of Gall, the phrenologists, have declared unanimously and very decidedly, that the statements of Gall are correct. Neither anatomical nor physiological knowledge is necessary for the examination of this question. Therefore I think it is wrong to regard the testimony of the phrenologists as worthless; certainly it is true that most of them did not fully understand the scientific part of

his doctrines, still they had their common sense and were generally honest men. Still we cannot ask anybody nowadays to take for granted upon anybody's word what can be observed. But one has to make observations either one's self or abstain from judging, but not condemn a theory without an examination. I do not want to lay too much stress upon my own observations, as they are not numerous enough, but as far as they go, they absolutely confirm the statements of Gall. It is not so very easy to find out the real facts. Indeed the physical sign is confirmed readily enough, as soon as one places the hand to the neck, but the degree of sexuality is very difficult to establish. Here most people tell frightful lies and often they are not able to judge themselves. Especially the women often do not know their own nature. Among the men many believe they have a strong instinct because they are idle and pleasure seeking and kill their time with stories about women. The real strength of the instinct manifests itself when it forces a man against his will or drives him to actions. In several cases in which the life was ruled by sexuality in spite of earnest work, I found Gall's sign very marked. In most of my patients very little rounding could be felt in the neck and indeed the instinct does not seem to be very strong in our population in general. About the state in pathological sexuality I cannot yet say anything.

Perhaps the examination of the prostitutes and the criminals could be of use. I find that P. Tarnowsky has found among 150 prostitutes sixty-two with development de la protubérance occipitale, but I could not learn from the author, whether the os occipitale was strongly rounded and the sexual instincts were vivid.

If we suppose that the assertion of Gall has been confirmed through sufficient examination, we have an important fact which like all facts stands on its own legs; that is, it is entirely independent of other reasons, theories, conclusions, in our case of the physiology of the cerebellum. Gall's idea that the cerebellum contains the organ of the sexual instinct may be right or wrong, that does not touch the cephaloscopic fact. Of course the latter needs an

explanation, but it might be that at present we could not find it; *tant pis pour nous*, the fact stands in spite of it, as soon as it has been proven.

Gall asserts that the cerebellum is the seat of the sexual instinct.

When Gall still lived his doctrine of the cerebellum was emphatically attacked by Bouillaud, who came to the conclusion (*Recherches expérimentales tendant à prouver que le cervelet préside aux mouvements de la station et de la progression, et non à l'instinct de la propagation*. Arch. gén. de Méd. XV., p. 64, 1827,) that Gall's statement was wrong, because in the animal experiments no sexual symptoms occurred. In a second article, (*Recherches cliniques tendant à refuter l'opinion de M. Gall sur less fonctions du cervelet ect.*, Ibid, p. 225) he criticises the eleven cases of Serres referring the sexual irritation to the oblongata, and quoted against it the cases of other observers, in which sexual symptoms had not been found. Bouillaud says: "Je ne dirai rien ici des preuves tirées de l'*histoire naturelle* et de l'*inspection des cranes*. Elles sont trop infidèles. Je me bornerai aux preuves, que M. Gall appelle des preuves pathologiques." Later authors also did not regard the cranioscopic observations of Gall but only his assertion that the cerebellum is the seat of the sexual instinct. Almost all agree with Bouillaud and condemn Gall's doctrine.

Gall supposed that the only function of the cerebellum was the representation of the sexual instinct. This opinion was already then untenable, as the experiments of Rolando and Flourens, though they led to different views, positively proved the relations of the cerebellum and motility. Since then the physiology of the cerebellum has gone through a long history. L. Luciani (*Das Kleinhirn*, German translation by M. O. Fraenkel, Leipzig, 1893) has given it in detail. He himself teaches that the absence of the cerebellum produces neither paralysis nor anaesthesia, that rather "asthenic, atonic, astatic symptoms" are observed, that consequently the cerebellum has asthenic, tonic and static effect, namely that it regulates resp., promotes the force, the tension and the rhythm of the impulses, and so that each half of the cerebellum influences the same half of the

body, mostly the muscles of the lower extremities and of the spinal column. Luciani also says the following: "Still we feel it necessary to make a reservation before we deny the cerebellum all direct partaking in the phenomena of the psychical life. For when we think of the crude, awkward manner of our objective indirect methods of examining the senses of the animals and when we consider that the subjective examinations of the patients with diseases of the cerebellum, which would be very valuable, can hardly be used in consequence of little intelligence or great suggestibility of the patient or because of the negligence of the examiner, we feel inclined to leave this question undecided, 'open,' as one says." In spite of this reservation Luciani most positively declares himself against Gall because some of the dogs operated by him still copulated though the cerebellum was extirpated partially and even totally. The rutting periods are according to Luciani more violent in the dogs operated on than in normal animals. Other physiologists reached different conclusions from Luciani, but all agree in ascribing the cerebellum relations to the motility and in not being able to discover any sexual relations.

The pathologists also have all joined Bouillaud; an exception is as far as I know only Ph. Lussana.* He draws attention to the fact that in many cases the sexual conduct has not sufficiently been observed, that the authors had been prejudiced, etc. He himself has collected thirty-five cases in which disease of the cerebellum was accompanied by sexual symptoms (impotence, obstinate masturbation, priapism, etc.). Consequently, according to Lussana sexual disturbances in diseases of the cerebellum are found about as often as vertigo or disturbances of sight. According to his opinion the cerebellum conducts the sexual sensations in the stricter sense (*senso specifico venereo*), while the impulse to the other sex (*instincto venereo*) has to be ascribed to the cerebrum as well as all other instincts.

The anatomy does not give an explanation yet; at least we do not have any secure knowledge about the paths which connect the spinal cells which form the centre

**Fisiologia e patologia del cervelletto, Verona-Padua, 1885.*

for the genitals, with the brain. It has been stated that in animal experiments stimulation of the cerebellum produced movements of the uterus (Spiegelberg and others), but others (Ferrier, etc.,) have denied this and the results of such experiments are probably uncertain anyhow.

Taking all facts together we see that a definite judgment is impossible. For though the present observations prove that the cerebellum influences the motility, they do not prove that the hypothesis of Gall is impossible. *A priori* we can suppose that such a great and complicated organ as the cerebellum represents various functions. The opinion of Luciani that the attempt of a dog without cerebellum to copulate with a bitch excludes a relation between cerebellum and sexuality, can be contested. As far as I can see this fact has been observed in one experimental animal only (the bitches that permitted the copulation had still one half of the cerebellum), but also if we accept that it is absolutely undoubtable, it has to be interpreted with caution. Goltz has proven that a dog without brain can still run; shall we suppose that the cerebrum is unnecessary for the running of the dog?* We know too little about the significance of the central apparatus in the animals. The dog without cerebellum still has the spinal cord, by means of which the activity of the sexual organs is regulated, he has his sense organs, by which he perceives the presence of the rutting bitch, perhaps he has through his cerebrum remembrances of what he formerly experienced. All this could make the attempt of the coitus possible under favorable circumstances without the instinct standing behind it, which so to say, organizes the impulses which come from the spinal cord, and forces the whole organism to place its forces at its disposal. In the nervous system machines are ingeniously built above each other, as the officials in a state; when for example the minister is not present everything is all right for a short time but still he is not useless. That the copulation is possible without complicated appar-

*Goltz has also severed the lumbar part of the spinal cord of a bitch. This bitch became rutting, copulated and threw a litter. If Goltz should be able to keep alive a bitch without cerebrum, probably the same would happen. Then one could conclude that neither the spinal cord nor the cerebellum, or cerebrum are necessary for the sexual functions.

atus in the brain, is demonstrated by the lower animals, but the higher we go in the animal family the more important becomes the brain also for the elementary functions. In the dog it will play a greater role in *sexualibus* than in fish, again in man a greater one than in the dog, and thus it would be possible that the loss of the cerebellum produces relatively small disturbances in the dog but much greater ones in man. Similar considerations could be made in different directions, and though nothing positive comes out of them, still their result is that Luciani can, but not necessarily need be right.

Also the consideration of the clinical material leads to a non liquet. I cannot say that the demonstration of Lussana is very convincing, certainly it is not proven that a disease of the cerebellum directly produces sexual disturbances. But the proof of the contrary is lacking also. There remain facts for which it is difficult to find another explanation. At least we have to admit that symptoms of sexual irritation which otherwise are very rare in diseases of the brain are relatively frequent in lesions of the fossa occipitalis. Of course one has to think in such cases at first of the irritation of the fibres which ascend from the spinal cord. But they finally end somewhere. Apparently they connect the centres of the lumbar part of the spinal cord with the cerebral cortex, and if there is such a centre, with the cerebral centre of the sexual instinct. Though the nucleus, which these fibres will enter first and on the irritation of which perhaps depend the priapism and the other phenomena under consideration, cannot be identical with the sexual organ of the brain, we can still presume that it will not be very far off. This may be so or not, certainly the clinic of the diseases of the cerebellum is not such a finished doctrine that future surprises are excluded.

4. Gall makes statements about the size of the cerebellum in different physiological conditions.

I do not want to discuss the zoological details, for I really understand too little of this subject. Even to a layman some of Gall's assertions seem strange; but whether he is wrong or not does not matter very much.

About the conditions in man we have many statements. Recently Dr. H. Pfister (Das Hirngewicht im Kindesalter. *Arch. f. Kinderheilkde.*, XXIII, 1-3, p. 164, 1897,) has given data, to which I can refer. Gall says in the newly born the cerebellum is developed least of all parts of the brain, that it represents 1-9 to 1-20 or less still of the brain, while in the adult it is 1-5 to 1-7. Strange as it is he says nothing about weighing, though such statements can hardly be got otherwise as by weighing. According to Gall the nerve fibres of the cerebellum are the latest to become distinct. The highest development is reached by the cerebellum towards the eighteenth to twentieth year.

According to Huschke* the occipital part of the brain (without corp. quadrig.) amounts in the newly born to 6, 7 per cent. in the adult to twelve to fourteen per cent. of the brain. Meynert gives the cerebellum of the newly born 5, 7, of the adult about eleven per cent. Pfister found in the first month about six per cent., at the end of the first year 10, 7 per cent. Like Gall, Pfister calls the attention to the great variations of the relative size of the cerebellum in different individuals; he says that even without pathological conditions he found surprisingly great cerebella in some children; in other cases the quantity of blood might play a role, because when anæmic the cerebellum seemed to be heavier.

If we comprise the statements of these authors Gall seems to be right with the assertion, that in the infant the cerebellum is relatively much smaller than later on; still in reality the relation between cerebrum and cerebellum seems to become stable earlier than Gall supposes. In relation to the latter question he says, that in his numerous post mortem examinations of children up to the sixteenth year he did not find the relation between cerebrum and cerebellum like that of the adult. But here too we find nothing about weighing. He at once passes over to the examination of

*E. Huschke (Schädel, Hirn und Seele des Menschen und der Thiere nach Alter, Geschlecht und Rasse. Jena, 1854,) says on p. 76: "Immediately after birth the cerebellum stands in the bad proportion of five to six per cent. But this soon changes, so that if we take the average of the first ten years, already eight to nine per cent, are reached, later on it is ten to eleven per cent."

the skull and points to the small development of the part of the infantile skull between the proc. mast., which he illustrates in his plates. I do not know, if these cranioscopic statements of Gall have ever been re-examined except on the head of the living person.

According to Gall the cerebellum is relatively larger in the male animal than in the female. He recommends to compare the brains in water in order to preserve the natural form; therefore it seems that we have to do here with estimates by eyesight. He says that in man the difference is especially distinct, as is seen from the illustrations. The absolute size should be considered, for though the male brain is generally larger than that of the female, still there are parts of the brain, which are more developed in woman than in man, and constant proportions of the parts of the brain between each other do not exist.

According to Pfister, Parchappe (m. twelve, ninety-four per cent., f. eleven eighty-eight per cent. of the total brain,) Sankey, Huschke (m. 13, 17 per cent. f. 12, 32 per cent.,) R. Wagner (m. 12, 8 per cent., f. 12, 5 per cent.,) have like Gall found a larger cerebellum in the male sex. Of the more recent authors Weissbach (m. 12, 13 per cent. f. 11, 91 per cent.) has similar figures. But according to Meynert the cerebellum is about of equal size in both sexes, and according to R. Boyd the female cerebellum is larger. Pfister himself found the absolute weight of the cerebellum in boys greater on the average than in girls, but at the end of the first year the male was 10, 5 per cent, the female 10, 8 per cent.

Assuming that we find a confirmation of the statement of Gall, still the differences of the figures are so small, that we can hardly attach much importance to them.*

*Gall of course refers the asserted anatomical difference to a difference between the male and female sexual instinct. But the supposition, that the first is stronger, seems to me doubtful. We must not think of the human sexual instinct only of the desire for a coitus. The essential thing is that the sexual relations decide the thinking and acting, that the instinct to the other sex plays a rôle in life. In this sense the woman is more sexual than the man, whilst he, because he takes the initiative, shows more "manifest" sexual instinct and in his passion resembles the straw fire. In the pure woman the conscious desire is in reality only a desire for tenderness, but if the sleeping lion is awakened, the "manifest" instinct is great enough in many a woman. By the way I did not find anywhere a satisfactory psychological discussion of the sexual instinct.

5. Gall asserts that the cerebellum becomes smaller after castration and that the rounding of the os occipitale becomes flatter. The statement that the castration made in infancy checks the development of the cerebellum has to be separated from that, that the form of the os occipitale changes.

Leuret (*Anatomie comparée du système nerveux*, Paris 1839,) has weighed the cerebellum of stallions, mares and geldings; he found that on the average the cerebellum is rather heavier in castrated horses than in others; compared with the cerebrum it was like 1:5, 97, while in the stallions the proportion was 1:7, 07, in the mares 1:6, 59.* Lussana (*I. c.*) says, that according to Leuret, Lassaigne and Marchand the brain in toto is smaller. Lussana relates there the case of a priest who castrated himself in 1846, thirty-three years old, and died 1885, after having been insane many years. The brain weighed 1223g, the cerebrum 1040g, the cerebellum 158g. There was no atrophy of the cerebellum, what really is not surprising. The statements of Huschke do not say much, as his few figures are meant only to demonstrate, that in castrated animals the vermis is larger in proportion to the hemispheres than in the not castrated.†

While Gall himself does not bring anything about the cerebellum of those who are castrated in infancy, he declares with great certainty that in the skull the cavities, where the hemispheres of the cerebellum lie, are shrunk (comme

*Leuret's work was not accessible to me. Huschke makes accurate statements and has recalculated L's tables, which he declares to be full of mistakes. The total weight was in the stallion, 534, 8. in the gelding, 519, 6.

†Huschke (*I. c.*) says p. 74: "The castration has a decidedly bad effect on the occipital part of the brain (cerebellum+pons+oblongata) as is shown by the castrated tom-cat, the wether and the gelding. Apparently the body is kept in the state of childhood. . . . The observations by Leuret on geldings, which have been criticised above, need a repetition in order to confirm, if the gelding, what seems to me very doubtful, really has the heaviest occipital brain, and if this should be the case, how much of it is due to the vermis and other parts." On p. 79: "Finally I call the attention to the effect, which the castration has in the same way (by keeping on the infantile state) even on the vermis and hemispheres. If the cerebellum of the lamb has a vermis with a weight of 51, 4 per cent., the female sheep has 51, 7 per cent., the ram 48, 44 per cent., the wether 54, 6 per cent., the stallion 45, 4 per cent., the gelding 56, 9 per cent. The possible greater weight of the cerebellum in the castrated animals as Leuret asserts to have found, has probably to be attributed to its lower part, the vermis."

ratatiné) that the bone is thicker, less transparent and rough. He gives as an illustration the skulls of a tom-cat and of a castrated tom-cat, of a rooster and of a capon, but he gives only the exterior views.*

Re-examinations of other authors I could not find. But we have recently found exact data about the peculiar influence of castration on the growth of the bones. In castrated persons the lines of the epiphysis remain cartilaginous for a long time; consequently the bones grow in length and the castrated person becomes taller than the not castrated. Hegar's pupils have proved this. Ph. E. Becker was the first to examine two skeletons of negroes and one skeleton of a castrated young negro (*Ueber das Knochensystem eines Castraten, Arch. f Anat. u Physiol., anat. Abtheil, I. u. 2 p. 83, 1899*). In the first the length was 151.5 and 160 cm., in the latter 183 cm. Then H. Sellheim (*Castration und Knochenwachsthum, Beitr. z Geburtsh u Gynäkol. II, 2, 1899*) made animal experiments and examined animals which had been castrated for economical reasons. His main result is the following: "We have become acquainted with very remarkable disturbances in the growth of the bones following the castration in an infantile age. The deviations from the rule consist in a retardation of the ossification of cartilaginous parts of the skeleton, especially of the epiphysis in the bones of the extremities and of the sutures. The consequences are considerable changes in the proportions of the extremities of the skull, pelvis, and also of the chest." The details were found by measurements of the experimental animals—chickens and dogs. In the castrated bitch the bones of the limbs were longer and slighter than in the control animal, the skull was longer and broader but flatter. Conspicuous was the difference in the form of the foramen magnum: transverse to sagittal diameter in the castrated 1:1, 02, in the control animal 1:1, 28. The brain of the castrated animal was a little heavier than that of the control animal

*I must say against Rieger, that the differences in the illustrations are very distinct, and that the remark that it is very doubtful if the rooster and the tom-cat with the smaller os occipitale really had been castrated is indeed a criticism *cum ira et studio*.

—86:80, but diminished in its mass in relation to the bodily weight—2,935:2,963 thousandth parts of the body weight. The skull of the capon was smaller than that of the cock, only the sagittal diameter of the foramen magnum had increased. Sellheim also reviews the experiences of earlier authors, from which it is evident that the castration produces increased height of the body* elongation of the limbs, and the skull's remaining smaller. With regard to the observations on animals a certain emphasis can be placed on the circumstance, that the skull of the long skeleton of the castrated negro was smaller in circumference—48,5, than these of the two shorter skeletons—49,5 and 50,0. If in spite of the sutures remaining open, the skull does not participate in the increased growth of the skeleton, we ought to conclude on checked growth of the brain. Whether the skull is changed as Gall has described it, is not evident from the statements of Becker. He says of all three skulls that they were dolichocephalic (index of the castrated 74,7, of the others 71,5 and 73,4) with strongly developed occiput.

After all this question also is in dubio. Certainly the large broad neck of the stallion demonstrates that the part of the occiput where the muscles of the neck insert, must be different in the not castrated animal from that of the castrated. Of course one could think that because bull and stallion have stronger muscles at the neck than ox and gelding, the place of insertion must be larger. But as the conditions are so very complicated, we shall have to withhold our judgment, for if through the castration the development of the muscles, the growth of the bones and the growth of the brain are changed, it is necessary to be cautious. In the not castrated man the rounding of the occiput below the eminentia occipitalis does not seem to be dependent upon the development of the muscles. At least I have found in some men with strong rounding weak neck muscles, in others with weak rounding strong muscles.

*The Skopzies also are, according to Merschejewsky, taller than the non-castrated men.

However it is desirable that the effect of the castration on skull and brain might at last be understood thoroughly. The task is not so very difficult of solution at least as long as the question concerns the animal as well as the question of the relation between the strength of the sexual instinct and the rounding of the os occipitale in man, whilst we probably shall have to wait a long time for the solution of the other questions.

Just when concluding this article I received Rieger's book on castration (comp. Jahrbu. CCLXVII, p. 104). It contains a very bitter criticism of the statements of Gall on the sexual instinct and cerebellum, which causes me to make a few remarks. Rieger compares Gall and Lombroso and calls both charlatans. To place them together is justified in as far as both men are originals and have given important new disclosures; and because both have harmed their work by rash and odd assertions, so that their books form a mixture of true and false statements. We can either collect all the false parts and condemn the man or carefully select what they contain of important and true facts. Whether to follow one or the other of these ways depends on personal inclinations. In Gall's case the "exact" investigators will feel repelled. Gall was like Goethe (an Augenmensch) he saw with searching soul into reality and found things, which before him nobody else had seen. But his strength was the aperçu, not the regular working; when he had seen the picture of the new fact, the work was really done for him, he had his picture, the accurate measuring he apparently disliked. Gall, like Goethe had absolutely no mathematical talent. That this lack of exactness is unfortunate has to be conceded, but one thing does not do for everybody. Though we have to esteem the exact worker very highly we should thank God that there are unexact geniuses whose artistic talent shows us new paths. If one has found a new truth, it is not so very unfortunate if he gives it to us mixed with errors due to his imagination. Our strength is sufficient to do away with the useless admixtures, while it would have been too small for the positive production. This is how I see the

thing, because I am convinced that Gall not only as an anatomist but also as a psychologist and anthropologist has discovered important new truths. Of course Rieger is of the opinion that Gall was simply a swindler, and I shall probably not succeed to change his views. I am sorry for that in the interest of Rieger, for here he stands as much in his own light as in his unjust judgment of Lombroso.

It is true that Gall's weaknesses are apparent especially in his doctrine of the cerebellum but some things which Rieger criticises severely are not so bad. Gall believed firmly a rounding below the eminentia occipitalis did not only signify a strong sexual instinct but also a great cerebellum. Therefore he sometimes says, when he has found the first that he has found a great cerebellum. Besides he speaks of the skull, when he has examined the head only. But in all such cases we easily see from the context what the words mean.

All these complicated facts about the cerebellum are discussed by R., but he has no word for the psychological and anthropological facts, which speak for Gall. He does not see that for the first time in Gall's essay the sexual instinct has been conceived as a cerebral activity, and that Gall here lays the foundation of the psychopathia sexualis. He treats Gall badly, because he has not sufficiently emphasized the difference of the instinct in man and woman. According to R. we must not speak of a general sexual instinct, because the man has only a "desire for excretion," the woman simply a "desire for tenderness" ("Attachirungswünsche"). This kind of psychology seems to me rather shabby and entirely to misunderstand the essential point, that which is common to the different forms. New in Gall is the cephaloscropy, the recognition of mental characteristics by the form of the head; and in the essay on the sexual instinct the proportionality between instinct and rounding of the os occipitale is the essence. This R. disregards entirely, he passes it by repeating his invented assertion, that "in that region of the head the congruence between exterior and inner surface of the skull, which in other places is perhaps to be found, is effaced by bony

insertions, which are entirely dependent on insertions of muscles." About the cerebellum we know very, very little, about the castration we can only very slowly get clearness, but the cephaloscopic question is simply a matter of observation. The re-examination is very easy, but here R. turns aside instead of taking hold. But no, it must not be, because it does not conform with preconceived ideas.

JUVENILE FEMALE DELINQUENTS.*

By EUGENE S. TALBOT, M. D., D. D. S.,

CHICAGO.

CONSIDERING the class and the environment of the subjects, the number of cases in which the hymen persisted seems large; in twenty-one instances a hymen was present of size and character that at first sight seemed to indicate virginity. This however would be an erroneous presumption, since in by no means a small number of cases does the hymen persist after repeated coition. The hymen has been divided into several types by E. S. McKeet of Cincinnati, whose classification is a fairly serviceable one. The first type is the hymen *semi-lunaris* or so-called normal hymen which is most frequent. The second type is the hymen *circularis* with small central opening. The third type is the hymen *cribiformis* which is sieve-like, containing many holes like a water pot. The fourth type is the hymen *fimbriatus* which resembles the fringe-like appendages of the *ostium abdominale* of the fallopian tube. This form is the most important from a forensic point of view since it may be taken for a hymen which has been torn. The fifth type is the imperforate hymen which is a frequent cause for surgical interference because of resultant menstrual retention. It may obstruct penetration of the male organ. It is far from uncommon in primitive races and in some instances leads to special ceremonies of a phallic religious type precedent to marital coitus. It is not unfrequently so yielding to pressure as to remain despite repeated coitus.

*Continued from ALIENIST AND NEUROLOGIST, January, 1902.

†Medical Standard, vol. v.

This type modified by a small opening was rather frequent. The sixth type is that in which the opening of the hymen is divided by a perpendicular bridge into two parts. This strip of tissue passes from the concave border of the hymen to the *meatus urinarius*. In the seventh type there is an upper or anterior and a lower or posterior opening with simply a band lying transversely across the vagina. A second hymen is sometimes found above the first. The eighth type is the horseshoe hymen and the ninth type the bilobate hymen. These various types occur with greater frequency among the defective classes than does the first or so called normal type.

There were eight cases of enlarged clitoris but no special relation was determined between these and sexual perversities, albeit instances of this kind occurred. The association of sexual perversities with an enlarged clitoris, is, as Havelock Ellis* points out, far from being as frequent as was assumed by early writers. Sexual perversion, as J. G. Kiernan† has pointed out may, however, result in psychic pseudo-hermaphroditism, from experiments by females with the enlarged clitoris of the pseudo-hermaphroditic female or by males with the cleft of the pseudo-hermaphroditic male. Some of the perversities observed are sexual organ fetishism of the obsession type rather than true inversion. Many perversities were indecent plays of the type found by Niceforo among Italian shop and factory girls which have a superficial homosexual appearance.

Such plays, as Havelock Ellis remarks, cannot be considered eminently innocent or wholesome but on the other hand they are not radically morbid or vicious. They are strictly or even consciously play; they are dominated by the thought that the true sexual ideal is normal relationship with a man and they would certainly disappear in the presence of a man. These "plays," however, may lead to inversion later, in the prostitute type which certain juvenile female delinquents tend to become. As the female thief is nearer the normal there is less of this tendency in her.

*Psychology of Sex: Sexual Inversion.

†ALIENIST AND NEUROLOGIST, 1891.

There were eighty cases of refractive error examined. These were selected for examination on account of headache, inability to see the blackboard in school, blurring and pain in the eyes for near work. Forty-nine had compound hypermetropic astigmatism. Twenty had hypermetropia. Seven had simple hypermetropic astigmatism. Three had myopia and one compound myopic astigmatism. Eleven were refracted without a mydriatic and sixty-nine with a mydriatic. These results of Mary C. Hollister would need to be tested by the comparative frequency of the conditions among the people to which the girls examined belonged. It must be also remembered that in the home the subjects would be exposed to conditions determining eye strain which did not exist in their ordinary environment. The apparent increase of eye defect as shown in the use of glasses is rather due to the increasing strain of environment than any increase in eye defect. The alleged increase of eye defect from rise in culture is an expression of environmental change involving strain. Here as elsewhere civilization does not so often produce defect as it demonstrates its existence. Primitive man shows certain mental and physical defects on sudden exposure to civilization not because civilization causes degeneracy but because toward civilization he displays the qualities of a degenerate born in civilization. Rise in evolution is always accompanied by a lesser expenditure of force to accomplish a given result as Herbert Spencer long ago pointed out. This lesser expenditure of force is secured by an increasing complexity of checks. These checks constitute mental and physical self-control. The fittest to survive is determined by the environment under which the survival is to occur. The "over man" of Nietzsche is the fittest under primitive conditions to survive but the very qualities which secure this survival are those which would destroy him under conditions where the "secondary ego" is better developed. The germ of this "secondary ego" among the social animals leads to procedures by the herd which resemble those that society adopts toward mental and moral defectives. Some criminals, as Tarde has remarked, would have been the ornament and

moral aristocracy of a tribe of Red Indians. "The psychic characteristics of the criminal" as Havelock Ellis* remarks "constantly reproduce the feature of savage character; want of forethought, inaptitude for sustained labor, love of orgy, etc. These should not be attributed to the direct influence of atavism. When an original vice of organic constitution has thrown an individual into a more primitive and remote stratum of society the influence of environment will itself simulate the effects of atavism and exaggerate its significance. If the organic impulses of a man's constitution have led him to throw in his lot with brigands, he will not fail to live as a brigand lives, that is, as a barbarian lives. This is not atavism though it may be the outcome of atavism or arrest of development."

The eye sight of criminals was found by Bono to be superior to the normal. He examined one hundred and ninety juvenile delinquents in comparison with one hundred youths of similar age in an agricultural institute. The visual acuity of forty-nine per cent of the criminals was superior to 1.5 Snellen. Only thirty-one per cent of the honest youths had an equal acuteness. These results contrast with those found by Mary C. Hollister. Only ten of eighty-three cases examined for distinct vision has a visual acuity of one. Her results were as follows: without glasses of the eighty refracted eleven had vision equal one-tenth. Seven had vision equal one-fifth. Seven had vision equal one-fourth. Ten had vision equal one-third. Forty-five had vision equal one-half to two-thirds. Eighty-three cases were not refracted, of these two had vision equal one-fifth, two had vision equal to one-fourth, nine had vision equal to one-third, thirty-four had vision equal to one-half, twenty-six had vision equal to two-thirds, and ten had vision equal to one. These results however do not markedly differ from those of Case* in the instance of the inmates of the Elmira Reformatory. The greater number of diseases of the visual apparatus in the Reformatory inmates can, Case remarks, be traced to accidents and the habits

**The Criminal.*

**New York State Reformatory Year Book, 1895.*

incident to early life and the general degeneracy of the individual from inherited and acquired syphilis, alcoholism, dissipation and vice, tobacco privation, malnutrition, etc. As errors of refraction depend largely upon a disproportionate structure of the eye, a want of harmonious relation of the anatomy of the eye and its refractive media, refractive errors must occur frequently in such individuals in whom lack of symmetry is so common a characteristic. The expression of many of the eyes is peculiar. As the cranial and facial measurements are disproportionate in many cases, it must follow that the orbits are likewise. Hence these may be either too narrow or too broad inter-pupillary distances. It has happened to be the latter in Case's experience at the Reformatory. He has records of several instances in which it was three inches, whereas the average is about 2.3 inches among adults outside. As might be expected from the anomalous physical development an extremely high degree of refractive error exists. Contrary to the generally accepted view of ophthalmologists myopia and myopic astigmatism are the most frequent focal errors found.[‡] These forms of refractive error are claimed to be the result of civilization and education of high pressure and competitive examinations in school and prolonged application of the individual to close work and study. The class of men found in the Elmira Reformatory should practically be exempt from near-sightedness if this view be correct. But the opposite are the exact conditions found. There is little doubt, but in many instances there is an inherited tendency to near-sightedness transmitted through many generations and that unhygienic environment and general deterioration of these subjects weakens the coats of the eye and precipitates these conditions. The other focal errors do not differ essentially from those encountered in general practice save in the prevalence of high degrees of the same. Disturbance of the equilibrium of the exterior ocular muscles in a tendency of the eye to turn in the abnormal directions, so-called dynamic squint were not noticed. They are not so common as in general society. Sequelæ of cor-

[‡]Dr. Hollister's results do not agree with these.

neal lesions are of common occurrence. Opacities both localized and diffused with interstitial deposits of corneal layers are often seen and evidences former traumatism. In some cases they indicate a previous specific trouble. Disease of the iris, crystalline lens and deeper structures of the eyes are frequently seen but are not characterized by anything peculiar to these individuals. In reviewing what has been said the conclusion is entertained that the physical make-up of the adolescent criminals is reflected as well in his visual organs as in other proportions of the body and the predisposition to eye trouble is inaugurated at birth. The environment, personal habits and mode of living only serve to act as exciting causes upon an already predisposed organism.

The ear in criminals has received much attention. The external ear, as Ellis remarks, is an organ which, though it still seems to be not wholly without use is undergoing retrogressive dissolution. It is very sensitive to the slightest nervous disturbance and such nervous disturbances occur frequently in persons who must be regarded as fairly normal. But they occur much more frequently as a rule among the abnormal classes of society. Thus Gradenigo (a very competent observer having a full knowledge of the fallacies involved in over hasty conclusions) examined several thousand persons of both sexes both among the ordinary population and among insane and criminal men and women. He found that the percentage of regular ears among men of the ordinary population was fifty-three; among women sixty-six; among insane men, thirty-six; among insane women, forty-six; among criminal men, twenty-eight; among criminal women, sixty-four. Thus while women always possess more regular ears than men, both criminals and insane show a smaller proportion of regular ears than the ordinary population and criminals come out below the insane. Gradenigo also pointed out the important fact (not always sufficiently emphasized) that the ear anomalies of the criminal and insane are not only greater in number but of greater gravity than those found in the ordinary population. Thus while no one would follow the scornful advice of a foolish critic of criminal anthropology, to call a man a criminal because of the shape of his ears, yet the shape of the ear still has real significance. The conditions found in the Geneva Home are best given in the following tables:

TABLE I.

TABLE II.

	Normal.....		167
Left			
Higher....		3	
Right			
Higher....		1	
Close		100	
45°		11	
Right.....			
Deformed ..		75	
Small		11	
Large..... ..		25	
Excessive..		21	
Medium.....		10	
Arrested		80	
Excessive..		16	
Medium		22	
Arrested ...		73	
Excessive..		69	
Medium		6	
Arrested		39	
Narrow		30	
Long			
Broad		81	
Separate....		1	
Medium.....		24	
Close		86	

These results indicate a greater frequency in ear abnormalities among women than the percentages of Gradenigo, but are in accord with the results of examinations made by Harriet Alexander and myself in the Chicago Bridewell.*

The occiput in forty-two was arrested in development; in twenty-six there was excessive development; the rest were of medium development. The bregma was high in 109 and low in two. The forehead was high in sixty-three; low in thirty-five and receding in thirteen. A kephalonoid type of skull was rather frequent. The jaws were normal in forty-five; V-shaped in thirty-one; partial V-shaped in sixteen; saddle-shaped in four; partial saddle in ten and semi-saddle in four. The alveolar process was normal in 107 and hypertrophied in four. The teeth were regular in seventy-four cases and irregular in thirty-seven. Tubercles were present in fifty-five cases.

A significant fact in connection with criminality was the maldevelopment of the thyroid gland. This was present in sixty-four cases; of these forty had an excessive development and twenty-four had arrested development of the gland. The influence of thyroid conditions on mentality has long been a matter of record. Its relationship however to moral imbecility has not been sufficiently studied. Ottolenghi however has called attention to anatomic relationships between thieves, sexual offenders and cretins.

According to Havelock Ellis a remarkable abundance of hair occurs among criminal women and is usually accompanied by a marked development of fine hair on the face and body. The hair on the head of seventy-four examined was thick; in thirty-seven it was thin. The hair was black in fourteen; brown in ninety-three, and blonde in four. The hair in ten non-negroes was curly. In eighty-nine cases inclusive of one Mongoloid Negro it was straight. The maternal ancestry was unknown.

**Medical Standard*, vol. xiii, 1893.

The cephalic index presented the variations shown in Table III:

TABLE III.

CEPHALIC INDEX.

Nationalities	Maxi- mum.	Mini- mum.	Aver- age.	Num- ber.
American	86	72	75+	17
German	86	69	77+	28
Negro	73	65	71+	12
Irish	86	63	73+	18
Jew	83	72	77+	3
Polish	79	72	75+	4
Bohemian	72	72	72+	3
Norwegian	79	74	76+	4
Scotch	84	72	75+	7
French	83	67	73+	3
Swiss	82	82	82	1
Swedish	74	74	74	1
English	79	72	76	9
Italian	70	70	70	1

The variations in measurements out side of first permanent molars and second bicuspids are shown in Table IV:

TABLE IV.

MEASUREMENTS OUTSIDE. FIRST PER MOLARS AND SECOND BICUSPID.

Nationality.....	Greatest Width inside 1st Molars.	Least Width.	Aver- age.	Greatest Width.	Least Width.	Aver- age.
American	2.25	2	2.13+	2.12	1.75	1.83
German	2.25	2	2.18+	2.12	1.75	1.96+
Negro	2.25	2	2.16+	2.12	1.84	1.95
Irish	2.25	2	2.13+	2.12	1.75	1.89+
Jew	2.25	2.12	2.16+	2.	1.84	1.94+
Polish	2.25	2.	2.12	2.12	1.75	1.92+
Bohemian.....	2.50	2.	2.20	2.	1.84	1.89+
Norwegian	2.25	2.	2.06+	2.	1.84	1.88
Scotch	2.25	2.	2.08	2.	1.87	1.87
French	2.12	2.12	2.12	2.	1.75	1.91+
Swiss	2.	2.	2.	1.84	1.84	1.84
Swedish	2.12	2.12	2.12	2.	2.	2.
English.....	2.25	2.	2.16	2.	1.75	1.89+
Italian.....	2.	2.	2.	1.75	1.75	1.75

The variations in the height of the vault are shown in Table V:

TABLE V.

Nationality.....	Greatest Height.	Least Height.	Average.
American .....	.60	.50	.54+
German .....	.60	.50	.52+
Negro.....	.60	.50	.55+
Irish.....	.75	.50	.55+
Jew .....	.60	.50	.56+
Polish .....	.60	.50	.55
Bohemian .....	.60	.60	.60
Norwegian .....	.60	.50	.52+
Scotch .....	.60	.50	.54+
French.....	.50	.36	.45+
Swiss.....	.60	.60	.60
Swede .....	.60	.60	.60
English .....	.75	.50	.56+
Italian .....	.60	.60	.60

The variations in the facial angle are shown in Table VI.

TABLE VI.

FACIAL ANGLE.

Nationality.....	Greatest angle	Least angle	Average
American	80	64	73+
German	80	68	74+
Negro	78	66	71+
Irish	80	68	74+
Jew	77	72	74+
Polish	80	70	75
Bohemian	75	68	72
Norwegian	76	65	70+
Scotch	78	69	74+
French.....	78	70	75+
Swiss.....	78	78	78
Swede	78	78	78
English	80	65	70+
Italian	78	78	78

The average number of stigmata presented varied slightly. The average among the Americans, Germans, Irish, Jews, Norwegians and English was about the same, seventeen. The Negro, Polish and French average was about the same, sixteen. The Bohemians, Scotch, Swiss

and Swedes average the same, eighteen. The Italian average was highest, twenty, but this was found in the single case examined. Table VII gives the details.

TABLE VII.

No. Stigmata.

		Italian	English.....	Swedish.....	Swiss.....	French.....	Scotch	Norwegian ...	Bohemian ..	Polish	Jew	Irish.....	Negro	German	American.....
13															
14	1	1	1	2											
15	1	2	1	3	1										
16	4	6	1	4	1	1									2
17	1	6	4		1	1	1	2							3
18	4	3	2	2			1	1	1	2					2
19	2	6	1	2		1	1	1	4						1
20	3	2		4	1										1
21	1	2													1
22						1									
Average		17+	17+	16+17+17+16+18	17+18+16+18	18	17+20								

Table VIII gives the stature for reference:

TABLE VIII.

HEIGHT I.

STANDING. SITTING.

Nationality....	No.	Greatest Height.	Least Height.	Aver- age.	Greatest Height.	Least Height.	Aver- age.
American	6	66	60	62+	34	30	31+
German	15	64	58	61	34	30	31+
Negro	5	66	56	60+	30	32	33
Irish	12	66	59	61+	33	29	31+
Jew	2	63	59	61	31	30	30+
Polish	2	65	60	62+	32	32	32
Bohemian	3	63	59	60+	33	29	31
Norwegian....	1	63	63	63	32	32	32
Scotch.....	6	66	59	61	35	29	31+
French..	2	65	62	63+	33	32	32+
Swiss	1	60	60	60	24	24	24
Swede	1	62	62	62	36	36	36
English...	4	66	60	62+	32	30	31+
Italian.....	1	62	62	62	33	33	33

The variations are not specially significant as to departure from the norm.

Color blindness was not found in the 711 cases examined. Ottolenghi found but one case in 460 criminals tested

with Holmgren's wools. Holmgren on the other hand found that color blindness existed in 5.60 per cent. of 321 criminals, while among the ordinary population there was found scarcely 3.25 per cent. It is obvious that in the matter of color blindness racial influences are present. Among Nubians for example, color blindness is rare.

So far as observations were obtainable they tend to show that the juvenile female delinquent is markedly deficient in physical sensibility. This physical insensibility is, as Havelock Ellis remarks, associated with that moral anaesthesia which is the criminal's most fundamental psychic characteristic. The moral insensibility of the instinctive and habitual criminal, his lack of forethought, his absence of remorse and his cheerfulness were very early studied by Despine.

In a discussion of the question of race degeneracy some seven years ago* I pointed out that the criminal type did not even with a fostering environment always breed true to itself. The most frequently cited instance of alleged criminal heredity is the famous "Jukes" family. But of this family a little less than ten per cent became self-supporting, good citizens. The number of defective beings in the "Jukes" family did not consider the environment prophecy as much evil as the comparatively large number of normal beings augured good. Heredity, as J. G. Kiernan† points out, is a prophecy of what may be, not a destiny which must be. From the moment of conception the new being is subjected to varying environments and to the influence of atavisms which may work good or evil, irrespective of the impact of immediate heredity. This is well shown in the history of one case under observation in the Geneva home. The father came from a good family but was sent to prison for rape upon a daughter. One sister is a harlot and the mother is coarse. The girl who is 15 years of age left home on account of evil influences. She is not deeply immoral and is very bright. She has all the attributes of making her way in the world through good

*ALIENIST AND NEUROLOGIST, 1895.

†*Medical News*, February 15, 1902.

channels and will undoubtedly realize her aspiration of becoming a nurse. She has already earned the confidence of her teachers and is a "trusty." Possessed of strong will-power it is doubtful if the immoral influences of her family will have any effects other than to increase her determination to lead an unstained life. In this case despite heredity and consequent environment, the moral anaesthesia so characteristic of the criminal and the lack of forethought do not appear. A mind like this needs but proper environment to become an excellent member of society. A similar case is that of the heroine of Besant's "Orange Girl" who despite an intense criminal heredity and bad early environment becomes almost a saint. Eugene Sue in his "Mysteries of Paris" depicts in the Martial family three members who rise against bad heredity and bad environment. One of them fights the theft and murder tendencies of his ancestors. Through his ethical tendencies, the plastic minds of a brother and sister are influenced for good. The father, mother, another sister and brother (savages born in the midst of civilization which has but sharpened their claws) die by the guillotine.

(To be Continued).

PUBERTY AND GENIUS.*

By CESARE LOMBROSO, M. D.,

TURIN, ITALY.

Professor of Psychiatry in the University of Turin; Honorary Fellow Chicago Academy of Medicine, Etc.

HOW is the great variety and diversity of men of genius determined? Why is it that one is determined in the artistic direction more especially in painting when another becomes a genius in history or archæology? This is a new problem that heredity alone is impotent to solve. Though for many geniuses (like Darwin, Musset, Raphael, Bach, St. Hilaire, Bernouille) the fact of birth in a family environment of painting, astronomy and biology clearly explains their orientation (for to hereditary predisposition which influences their tendencies is added the influence of an environment). From the earliest years they are exposed as well as in their atavism to the influences of a definite inspiration, which does not occur in all. Heredity of scientific genius is oftener the exception than the rule.

The same is true of the economic and social circumstances which have been called the external environment and to which have often been referred the determination of the way chosen by genius. Many celebrated warriors surged forth from Piedmont, always in a state of war. Many jurists are formed in the regions of Italy where crimes and lawsuits abound. This explanation is also possible for the fact that among Jews so given to commerce, great econ-

*Translated from the *Revue de Psychologie* December, 1901, by J. G. Klerman, with comments.

mists are born; as, for instance, Marx, Ricardo, Loria and Luzzati. Ricardo was not inspired by his father and it cannot be said that he had hereditary tendencies but there is no doubt that having taken part in the commercial speculations of his father, he rose from the simple practice of business to economic applications whereby he found the explanation of many errors of the theoretical economists his predecessors. All his works evince this origin and this practical inspiration, permeated though, perhaps, by the repercussion of great commercial events in which he was mingled—the panic of 1800 for example.

It is hardly necessary, however, to recall that favorable circumstances are often lacking to genius. An adverse environment is more often present than a favorable. Boileau, LeSage, Descartes, Racine, LaFontaine, Boerhaave and Goldoni were obliged to inter the muse under the cumbrous toga of Themis or the no less confining stole of the priest; DePoisson's parents wished to make him a surgeon; those of Lalan and of Lacordaire an advocate; those of Vauclin a farmer; those of Herschel and of Cellini a flute player; those of Michael Angelo an archæologist. Never, said his father, a botcher of images.

Berlioz was the son of a physician of genius who had published important works on acupuncture. Wishing to have a successor he trained his son to this end. His son to please him overcame his repugnance for dissection. But, at seventeen years, having heard the Danaides of Salieri, he abandoned everything to become a composer. This was likewise the case of Flaubert who should have become a lawyer.*

Galileo† was one of a long series of ancestors, philosophers, magistrates and thinkers who stretch back to 1339. His father Vincent (besides an aptitude for music in which he displayed great originality) had a penchant for geometry and commerce. Bendetto, the brother of Galileo, has some renown as a musician; the father having taught music to

*Lombroso ignores in the case of Flaubert epilepsy, the appearance of which altered his career.

†Neill, Life of Galileo, 1793.

both sons. But this musical heredity[§] was equally without direct influence on Galileo with his education which, at this epoch, consisted chiefly in rhetoric and the classics. Nelli states that at this time there was only a single school of geometry and mathematics in all Tuscany. Nothing was appreciated but the classics. The medical sciences had no attraction for Galileo since they were chiefly theoretical and unrelated to experiment.||

The hereditary and environmental conditions, by which the attempt is made to explain the origin of different types of genius are therefore, as here shown, generally lacking. It is not sufficient to determine the particular tendency of genius to have such a predominance of the visual and auditive centers, such a vivacity of imagination, which may be illustrated in terseness and ease of style. These conditions have an enormous influence on the origin of genius but a feeble one on its varieties. A visualizing tendency may create a poet, sculptor, histologist or lightning calculator as well as an auditive may create a musician, orator, poet, critic or novelist. Such a predominance however, is not the only factor causing variety of genius.

This (without ignoring the importance of heredity, environment and individual inclination) arises from another factor which, in my opinion, plays the principal role in the orientation of genius. This factor is strong emotion at the onset of puberty. What impresses the psychologist on analyzing the lives of great men is that, in most cases, the determining cause of their talent has shown itself in early youth and has originated in a strong emotion in harmony with individual tendencies.

Thus Segantini, having shown his genius on the walls of Meis, his superiors wished to make of him a servant. He

[§]Here is observable Lombroso's curious lack of critical acumen. Music, it is almost unnecessary to say, is a branch of mathematics. One trained in music but destitute of a musical ear, would readily acquire thereby a mathematical tendency.—K.

||Lombroso is in error as to the purely theoretic character of medicine in the late sixteenth and early seventeenth centuries. It is only necessary here to recall the fact that the steps which culminate in Harvey's discovery of the circulation of the blood were made during this period. In place of being destitute of research tendencies medicine rarely made such use of them as at this period. Indeed Harvey so far outdid the much-be-praised Bacon in induction that he charged that alleged discoverer of induction with writing on science like a Lord Chancellor; that is evolving science as judges too often do from his inner consciousness.—K.

fled to his native mountains, where he kept sheep. There, without attaching to it much importance, he began to paint sheep on the chimneys. Suddenly a young girl died. Segantini then saw the mother in despair at not having a single picture of her dead child. He felt himself forced to paint the portrait, and thus became the great Segantini. The coincidence of a lively moral impression at the onset of puberty had, in a visual intelligence already powerful, determined the outcome of the painter's genius.

Proudhon was the son of a wood cutter. The curate taught him a little Latin and the Benedictines of Cluny the elements of design. He was fourteen years old when he attempted to copy the bad paintings of the convent preparing himself his colors from plant juices, mixing them with spines of fish. One of the friars told him he could not succeed with these peculiar means since the pictures had been painted in oil. This suggestion sufficed to lead Proudhon to find out for himself the secret of oil painting.

Stuart Mill at twelve years old was so affected by reading certain pages of the History of India written by his father, that he himself dates from that moment, his passion for historic and economic study. Arago was the son of a lawyer who at first was wrapped up in music and the classics. His ardor for mathematics suddenly seized him, on hearing a military genius narrate, how he had obtained a very high grade by study of the exact sciences at the polytechnic school. He then abandoned the classics and music to give himself entirely to mathematics and at sixteen he was ready to pass the admission examination to the school.

Thomas Young (who at two years knew how to read, and could at five recite much Latin and English poetry) met at eight years a surveyor who instructed him as to the use of his instruments. Young then sought further information in a scientific dictionary as to the structure of these instruments. He made a microscope and in order to study its mechanism learned differential calculus.

Galileo had not until his seventeenth year made any remarkable discovery in physics, although he felt an intense ardor for the exact sciences and repudiated the errors of the

metaphysicians and physicists of his time. At eighteen in the third year of his medical studies he found himself in the Pisa Cathedral. Here he saw a hanging lamp, moved by the wind, swaying rhythmically and thought suddenly of inventing an instrument to register the isochronism of slight oscillations, to establish on graphic registrations and on precise laws the greater or lesser vitality of cardiac pulsations.

Lioy in the *Primo Passo* of Martini states that at eight his mother being in her lying-in, he was sent to the library and given Buffon to read. This was the point of departure of his inclination. "It seems," he writes, "that I still see those birds, I dreamed of them all night; I had attained the grade of aspiring naturalist."

De Poisson's parents wished to make him a phlebotomist. They placed him in the hands of an uncle who pretended to instruct him to lance the veins of cabbage leaves, but he deceived him always. Towards the age of nine, having found a program of the polytechnic school, he felt capable of solving certain of its problems. He had found his career.

La Fontaine, the son of a bureaucrat, was at first a mediocre writer. His genius only revealed itself when he read the ode of Malherbes on the death of Henry IV. He realized then he was a poet and he was.

LaGrange had no great aptitude for work. His mathematical trend manifested itself in his second year at the Lyceum on reading Halley. He wrote his first essay on the method of variations.

Franklin* was the son of a machinist who had to leave school at eleven to gain his bread. He first ventured on soap making and later entered a printer's shop to learn something. Having observed for the first time the impact of the spark of an electric machine he imagined that lightning had the same origin and invented the paratonnerre. In this case it was not really the emotion which provoked

*There are many errors evident in this life of Franklin caused by Lombroso's inability to realize that multifarly of occupation was common in the United States. The autobiography of Franklin gives a totally different sequence.—K.

the genius, it was the occasion which revealed it and determined an individual predisposed organically towards a certain end, from which circumstances and education temporarily diverted him.

Charles Darwin had an atavistic predisposition toward the natural sciences since he counted several naturalists among his ancestors. The education he received was however without influence on the direction of his studies. The true point of departure of his personal work was the voyage on the Beagle.[†]

William Herschel was an instrumental musician who had taught himself literature and science without precise object. At twenty-one he was so deeply impressed with the aspect of the sky seen through a telescope that he desired to construct such an instrument for himself and began to study the metals which might best reflect luminous rays. At thirty-six he had constructed a great new telescope.

Lalande (a pupil of the Jesuits) composed, at the age of ten, dramas and romances and did not aspire to be other than an eloquent lawyer. An astronomer showed him in his sixteenth year the great eclipse of 1748. He was instantly seized with a passion for astronomy.

Boerhaave was destined to the clergy, and had already taken the first steps when he had the idea of treating an ulcer in his hand which bothered him from his ninth year. He was thus led to abandon theology to study medicine.

Laland, LaGrange and Young all showed an immoderate desire for classic studies until chance put into their hands geometric demonstrations. Gianni, a corset maker, became a poet on reading Ariosto.

Confessions of men of genius show that they undergo a true transformation in their manner of feeling at puberty. Many declare that without this they would never have leaped from mediocrity.

Guerazzi, speaking of himself, says: "There was an

[†]It is obvious, however, that Lombroso here, as is so often the case, ignores environment. Charles Darwin received a medical and zoologic education and as an already recognized naturalist he sailed on the Beagle. The Beagle together with the works of Malthus determined the production of that epoch-making work, *The Origin of Species*.

epoch which markedly moved my brain. Destiny put in my hands at twelve Ariosto. A mind neither sensitive nor vibrating to æsthetic impressions, but constrained until then by the dry and sterile rules of grammar dictated to it by a monk, was suddenly bathed in the felicities of Ariosto. Each desires, paradise in his own fashion; for me the paradise and soul of the time was Ariosto. I dined with him placed near my bread, I supped in the same fashion and my father had to put out the light to force me to bed. What I am worth I cannot tell, posterity will decide; but I owe all to Ariosto."

It is clearly evident that whether by some dynamogenic or some force of fermentation puberty of a great man makes a decided impression on him, even though education has hitherto been adverse to individual tendencies. Galileo furnishes an example of this. His education was literary and classic. The vision of the pendulum pressed him towards mathematics and astronomy and so strongly dominated him that he found numerous applications of it in almost all the epochs of his life. When he studied medicine in 1583 he applied his theory of the pendulum to the measure of the pulse. Hardly initiated in astronomy he applied it to the measure of the stars and time. On the point of death he thought of applying it to watches. Becoming blind he could not realize his designs. Death alone prevented him from completing the work begun at seventeen under the vault of the Pisa Cathedral.

(*To be Continued.*)

A QUESTION OF FIGURES.

By E. C. SPITZKA, M. D.,

NEW YORK.

THE danger to society threatening it at the hands of terrorists is so great, and governmental prevention so urgent, that the propositions of those who in scientific circles promulgate the irresponsibility and defend the non-punishability of magnicides merit prompt attention; for, inasmuch as their views tend to nullify the kind of legislative action contemplated, their reasons merit being most carefully weighed at the outset.

The position taken by the advocates referred to, has found interpretations chiefly in three papers recently published or read. As one of these has not yet appeared in a responsible medium, I limit myself to the consideration of the two which have been published in such.

Among the less striking, yet unquestionable facts of modern history is the increasing democratic and cosmopolitan tendency in the distribution of assassin deeds'. Performers rather than victims have gradually and successively moved down the social scale with successive historical periods. Today no Mithridates Eupator poniards a neighbor sovereign Anarathes, nor a Henry Transtamare a Pedro of Castile. A later day saw the moral homologues of the former employ Clements, Grandvals, Barclays and Gerards, and perhaps a king or viceroy utilizing "state-surgeons" of the same school to lop off an inconvenient Engelbrecht or a turbulent Masaniello. Then the crime departed from the throne forever to the cabinet, from the cabinet to the chateau and finally reached its present level among the lower

strata of society. With this descent, the victims ceased to be exclusively recruited from the "blue-blooded;" a hated minister or general occasionally figures as such, even with the ancients; heads of religious sects shared this fate in the times of Arius and Ali, and today the successful candidate at a popular election, and the heads of republics are less secure of their lives than kings on their thrones. The bankers of Vienna, Strassburg and Paris, the French Deputies, the Superintendent of Homestead Works, the chivalrous lawyer defending Dreyfus, as well as Deschanel and Gambetta, illustrate the gradually extending range of the assassin's horizon. That horizon has even been extended to the opposite quarter, for Yseult Dudley by her, all but fatal, assault on the chief of the "Dynamiters" propaganda, which subdued the louder tones of the latter's repertoire, taught the old lesson of the number who "may play at the same game." Perhaps what was once the special visitation of crowned majesties may find its cure when it shall have become concretely realized to be in reality an attack on the "Majesty of the People."

With this extension of assassin crime the term regicide has as gradually become extended to cover attacks on prominent persons generally, and this in turn led to the adoption of the generically more accurate designation "magnicide." It is the progressive obliteration of class distinctions or rather their lessened abruptness, through which as magnicide the crime has become more general in distribution. Still the victims of what may be called regencide—a term applicable also to the heads of republics, protectors and regents as well as to those strictly comprised under the older term—are not so few in modern days, as to justify a belief that distribution of assassin's favors has increased their chances of immunity.

The Sovereigns, Crown Princes and their consorts of Christian Europe, and Presidents of the two Republics classed with the great powers, have between the years 1800 and 1902 been the objects of ninety-two attempted assassinations. These were directed against forty-five individuals, of whom thirty-nine were male and six females;

resulting fatally to ten of the former and one of the latter, and in wounding of nine of the former and two of the latter.*

I have elsewhere given reasons for negativing the sweeping conclusions of Regis and Talbot anent the intimate association of regicide and insanity. One particular argument employed by the first named writer, bases the relation alleged, on a feature common—so he holds to both the lunatic and the political assassin; that their acts are seldom the act of more than one mind. As this claim trends on strictly psychiatric ground, I shall discuss it in these pages, and beg the reader's indulgence for the tiresomeness inseparable from statistical demonstrations.

To apply the gauge of numbers properly, it were prerequisite to possess a roster of political assassins. I know of none intended to cover this class as such, and the sources of special information within my reach are far from containing the number of data which time and what I may call the accident of opportunity have enabled me to accumulate in connection with inquiries rather remote from the present topic. It is for the latter reason, that these also are far from complete; but as their total exceeds from ten to fifteen-fold the number mentioned in the paper cited, I may claim their representing, at the very least, as safe a basis for calculation as could have been available to the authors named.

As a first test I shall prune down the total roster by establishing a limitation, which renders any exception on the ground of discrimination either invidious or selective as unlikely as may be. I confine myself to the cases of executed assassins who had accomplished their object; who had been tried as regicides, and punished with the highest penalty of the law. The rather small body thus collected

*It is found that as far as the small totals permit conclusions, the escapes of the Presidents of France and the United States are in proportion much fewer than those of royal persons. This is true also with regard to the number of attacks. There were fifteen attacks on eleven Presidents, resulting fatally in four cases, and seventy-seven attacks on thirty-four royal persons with seven deaths. I have not included in the series those "tentatives" which were probably gotten up by agents of Louis Napoleon against himself for effect.

may be regarded as composed of "ideal magnicides" exclusively.

	NUMBER	RATIO. (p.c.)
1. Number of assassinations accomplished in which more than one assassin was active <i>propria manu</i>	26	45.6
2. Number where assassination was accomplished by a single assassin who had accessories before the fact, known as such.....	6	10.5
3. Number of sane assassins acting singly.....	21	36.8
4. Number of insane assassins acting singly	4	7.0
5. Total of cases where actors were several.....	32	56.1
6. Total of cases where actors were single	25	43.8
General total.....	57	

The dementi given to the claims of the first of the writers cited, by these figures, would appear a *quietus*, if instead of computing by cases,* the number of individual participants were reckoned. Strictly speaking, this were also the more correct procedure. The tables in the sequel will however supply whatever may be supposed to be lacking in this direction. Nor shall I consume space by enumerating the individual cases; should their presentation be challenged, and the editor find the necessary space available, I shall substantiate the mere figures with cheerful alacrity.

*This does not state the strong side of the view opposed to the claimant. Of the 21 sane assassins, one is known to have had confidants of his intention, while seven belonged to associations of terrorists, whose plottings are usually within the ken of more than one man; of three finally (Lord Mayo's, Chief Justice Norton's and the successful assassin of Nasr Edin) no data were obtained. Of ten only or 17.5 per cent of the cases can it be positively asserted that the deed and foreknowledge thereof were limited to one person.

Successful Assassinations Total counted by number of deeds irrespective of the assas- sin's fate.	Ratio	After de- ducting those immune, from any cause.	Ratio
The actors were single, and so far as known with- out any confidant.....	39	29.5	38
Ditto with accessories before the fact or confidants.....	37	28.0	20
More than one concerned in each deed.....	56	42.4	43
Total.....	132	100 p.c.	101 100 p.c.

Successful assassins, number of individuals	Total	Ratio	After de- ducting those immune from any cause	Ratio
Assassins acting singly and without any confidant known as such.....	39	16.1	38	19.6
Assassins acting singly with either accessories before the fact or confidants of their intention.....	37	15.3	20	10.3
Assassins acting in numbers* of two or more jointly..	165	68.4	135	69.9
Total	241	100 p.c.	193	100 p.c.

The following gives the total number of persons assailed including those whose assassins remain unknown, as well

*Where the mere fact of a plurality of assassins is mentioned without the exact number being given, two are counted; thus, Caesar's assassination in which really some thirty were concerned is represented by only two units in the computation. This has been done to avoid error against the opposition criticized.

E. C. Spitzka.

as those killed in commotions directed against them from 1800 to 1902:

	Number of Persons Assaulted	Killed	Survived	Total
Royal families, Presidents, Consorts of Sovereigns.....	36	43		79
Cabinet Ministers	19	23		42
High officials otherwise	14	5		19
Consular and Diplomatic Service.....	5	3		8
Higher Clergy.....	3	3		6
Judges and Jurists otherwise.....	1	4		5
Learned Professions otherwise.....	3	4		7
Military	6	2		8
Parliamentary	2	2		4
Politicians and others.....	16	8		24
 Total of Persons Assaulted	 105	 97		 202

The reader will find other tables covering the same features for other historical periods in those of my papers cited at the end of this article. The discrepancy found between such parts of the other tables as correspond to the above, is due to the continuing accumulation of additional cases since attention has been specially directed to the subject. In no case has the general result as affecting propositions been modified by these additions; their basis has been confirmatorily enlarged thereby.

In place of the full series above referred to and as fairly representative, I submit a list of merely the assassins of a single country and of a single century (the nineteenth) in the history of that country; selecting for obvious reasons that of which the first named writer is a resident. The list numbers thirty-nine and although nearly complete does not perhaps cover the entire field; in addition it is to be borne in mind that the assassins of Labori, Marshal Brune and General Ramel remain unknown, while the immune assassin of General Lagarde is not named in my sources. Regis names slightly more than one-sixth of these assassins, "false regicides" being excluded from both lists.

In the following those notoriously acting in partnership with others, are distinguished by *italics*; of those operating

singly: Anarchists by straight capitals; members of the "Internationale," "Reds" and "Mariana" by sloping capitals; solitaires, properly speaking, are in plain type, the insane amongst them being provided with asterisks:

*Aubertin	<i>Fieschi</i>	<i>Orsini</i>
Alibaud	<i>Gomez</i>	<i>Pepin</i>
Bartolin	<i>Grilli</i>	<i>Pieri</i>
<i>BELLAMARE</i>	<i>HENRI</i>	<i>PLANORI</i>
<i>Bernard</i>	<i>HENRY, EMILE</i>	<i>QUENISSET</i>
Berezewski	Leon, Leonie Mlle	RAVACHOL
<i>Boireau</i>	<i>Limoleon</i>	<i>Rudio</i>
<i>Cambon</i>	<i>LECOMTE</i>	*la Sahla
CASARIO	<i>Louvel</i>	<i>St. Rejant</i>
<i>Cadoudal</i>	<i>Malet</i>	<i>Tibaldi</i>
<i>DARMES</i>	<i>MEUNIER</i>	<i>VAILLANT</i>
<i>Demerville</i>	*Miller, Domenique	*Vera Gelo, Mlle
Encore, Mme	<i>Morey</i>	*Verger, Abbe

The ratio of those positively known to have been associated is 46.1 per cent; of members of secret bodies who have regicide in their propaganda 28.2 per cent; presumed "solitaires" 25.6 per cent; among the latter 50 per cent were insane, *i. e.*, 12.8 per cent of the total.

The claim of Regis, thus exposed, is not even justified by his own cases, the very ones he supports it by. For instance, every reader of French history not only knows that Madame de Montpensier and Father Bourgoigne had communications with Clement, but also that the attempts Regis mentions as having been vainly made to find Clement's accomplices would have suffered from one fatal shortcoming, namely, that there was no more "Clement" left to investigate—seeing that he had been killed outright immediately after Henry II had been struck by his knife, and by that king's express command. As the memoirs tell us he was killed in the dramatic attitude of a sacrifice, with cruciform extended arms. While the investigation project of Clement came too late, Regis was as much premature in regard to Bresci, when claiming this assassin's having been also vainly investigated and making him therefore also a "solitaire." Had the author waited a few months longer, he would not have to witness the dementi

by an accomplice not alone being found, but actually sentenced to life imprisonment while the American journal publishing a translation of his article was leaving the press. On the page containing this reference Orsini is also referred to but named alone. This assassin operated in Regis' day; perhaps his mentioning an express sympathy for the brutal murderer is due to oblivion of the half-hundred innocent persons his bombs killed and mutilated. If so, I may assume that his not mentioning Pieri, Gomez, Rudio and Dr. Bernard was unintentional and the result of a like forgetting. The Orsini gang was not the only one of assassins working in partnership. Limoleon had St. Rejant and Cambon's active cooperation in the "Infernal Machine" attentat of 1800, against the First Consul. Bartolone likewise that of Tibaldi and Grilli, against Louis Napoleon.

How many accomplices d'Anquetonville (Duke of Orleans murderer) had is not accurately known; more, certainly, than had St. Phal (DuPlessus-Mornay attentat) who had at least four. Grandval had not been betrayed but for his partners, Dumont and Leefdal. Craon had more than one aid in the Olivier de Clisson assault. Suleyman's associates are indirectly mentioned by Regis, where he speaks of those executed with him. These were three Sheiks, who were executed because sharing the assassin's secret, they kept it as such. These few cases may illustrate how imperfect must have been the sifting of even the scanty material on which Regis based his conclusions. Out of his twelve French assassins named no less than five had either accessories or, notoriously, partners of their secret intentions; while a sixth appertaining to the anarchists may be regarded as presumably in the same category; this would leave exactly fifty per cent of "solitaires." Anything but a rule is that condition, the number of exceptions to which equals the number complying.

As it stands, the position of Regis is shown by these figures—the significance of which cannot be materially altered, inasmuch as the fullest supposable roster has limits but little beyond the extent of those here set—to be not alone over-stated, not alone untenable, but one inconceivable on

the part of such a conscientious investigator. For his own cases, few as they are, reflectively reviewed, would have sufficed to at least modify the assertion. But were the proof of the fallacy of this latter, not as overwhelming as it is, were it true that so great a majority of assassins were solitary as to constitute singleness the rule, the sequitur assumed that it strengthened the theory of insanity, could not be accepted without further ado.

Let us assume for the sake of argument, that a man of reading and intelligence becomes—call it what you will—desperate, malign, fanatical or sanguinely foolish, enough to contemplate regencide—and, for the sake of argument still, leaving the question of mental soundness altogether untouched, what position would he be likely to take in the following consecutive phases of reflective premeditation. First, “I would prefer to survive.” Second, “to secure the best chances thereto, I must aside from providing for escape *post factum* avoid all chance of betrayal by others.” Third, “History teaches that one-half the plots formed have been revealed by traitors, half the remainder by unguardedness of one or more, and the successful ones by accessories before the fact, who had escaped.” Fourth, “therefore, the only safety is in my single action, and in the confidence of my one mind alone.”

Would not this line of thought lead to common ground with the insane in this respect the soundest of sane assassins? This surmise is borne out by the fact that the most successful regicides who escaped were single actors in the majority; among those who failed to escape but succeeded in consummating their intention, again the majority were single actors. Among the accomplished murders by multiple assassins, the greater number had in their favor such political constellations as made their act like Uriquiza’s, Obrenovitch’s and Stambuloff’s killings and the assassination led by Epognathus,* rather party risings than assassinations in the ideal sense.

At every step in the maturation and fulfillment of the murderous purpose, it is notable that the multiple assassins

*Eventually executed when the political tide had turned.

are brought to a halt in larger proportion and at earlier stages than the single. Fewer conspirators even complete their preparations for the deed, fewer still penetrate as far as making the attempt, which is often, it is true, successful even as to escaping from the consequences. Of the single, on the other hand, few fail to penetrate to the object of their attack; many more fail in making it, and if the ratio of failures be great, and capture commonly their fate, these in proportion do not come near approaching the ratio of plots betrayed before they matured into actual "attentats."

Coming down to the present time and limiting the figures to those of the period 1800-1902, there are found eighty-six assassins acting singly. Of these fourteen are known to have made confidants of their intention, the latter being unmistakably on record in six cases by being executed, imprisoned for life or banished to penal settlements. Of the seventy-two remaining fourteen were nihilists, ten anarchists, nine members of the "Internationale," and one was an "Invincible." He who conceives that of the aggregate thirty-three there was a single one whose intentions were not known to—in some instances, even determined by—others, is either not familiar with the constitution and history of these bodies, or he must be naively credulous of the confessions made by those entangled in the meshes of the law.

Excluding these, thirty-nine are left to be accounted for. In twelve of these, the identity of the assassin is unknown, and of the twenty-seven remaining, the assumption that the assassin's intention was his own secret is a reasonable certainty in seventeen cases, slightly less than 20 per cent of the total (eighty-six) and 23 per cent of the total of those whose identity was known (seventy-four).

The fact is that if the entire list of those whose identity is established, and of whose fellowships nothing is stated, were allowed to the columns favoring Regis' view; and those affiliated with secret bodies (rendering fellowships a foregoing assumption) aggregated with those of positively known fellowships to the opposite column, it would give

the former twenty-seven, the latter forty-seven. Whether their aggregate number, or the total of eighty-six be made the basis, a majority of singly acting assassins may be taken to have had confidants, while of over 18 per cent this is positively established.

The reader may at this point note that I had eliminated provisionally the thirty-three singly acting assassins who were either declared insane or are to be regarded as having been insane, notwithstanding legal repudiation—that is, meaning all those who under the current conception of real lunacy would be regarded as insane. With that disease, sometimes called “insanity,” sometimes “degeneracy,” sometimes “defectiveness,” which is based on low or high upper jaws, distorted woodcuts and shuffled portraits or newspaper canards, I confess I have not familiarized myself—and in so far may be considered to be irreclaimably guilty of shortcomings fatal to the correctness of these figures.

Those, however, who agree with me in regarding only a very small minority of mankind as within the psychiatrists' domain will also agree with me that these figures justify every other conclusion than one supporting Regis' claim that participation in knowledge or deed of an assassin by others is exceptional. If agreeing thus far, what will the verdict be, when I point out my having thus far discussed exclusively single assassins; that, adding the eighty-six sane and thirty-three insane, aggregating 119 individuals, and of whom only fifty are positively known to have had no partners in knowledge, I have not yet mentioned those plots in which more than one assassin was actually engaged *propria manu*; and that the number of such participators at the minimum reckoning is 169. Adding to these the twelve single assassins of notorious affiliations, we have a total of 181, as against 107, of twenty-four of whom nothing definite is stated, of whom thirty-three were members of secret societies with assassination in their program, and fifty of whom were positively “solitaire.” The ratio of positive “solitaires” is 17.3 per cent; of positively “associated” assassins—either as to

sharing knowledge or action—it is 62.7. This shows that the condition stated by Regis instead of being the rule, *approaches more nearly to the exceptional of the two*. The ratio of the positive "multiple" assassins to the "solitaires" is as 100:27; and the "multiple" instead of the rarity Regis makes them appear, actually preponderate over all other classes combined, secret society members and unascertained included!

But that by no means states the full extent of the collapse of Regis' very positive claim. I had omitted the following cases as possibly objectionable to financial requirements as to magnicides. Of Hitosubachi it is known that he hired the assassin of Kamenosukameni; of Demerville (executed) that his having made Barére a confidant betrayed him; Keltsch was murdered by a hired bravo; Duchesme's intended "attentat" on Bismarck was revealed by his written program and proposal sent by him to the Archbishop of Paris; the Franc-tireur, whose suicide led to the revelation of another plot against the same, had killed himself because of the maire of St. Monehould and others having refused him the weapons he required; they fearing the consequences to themselves were he to carry out the confided intent. Nelasquez, Mexico's Chief of Police, to ingratiate himself, had the would-be assassins of Diaz killed. As he made no secret of it, it became known and indignation arose; and he, realizing after his arrest a probable death on the scaffold, committed suicide. These six cases admitted would further increase the majority of Regis' "exception."

(To be Continued.)

SELECTIONS.

CLINICAL NEUROLOGY.

RAINBOW VISION.—M. Adamkiewitz (*Neurologisches Centralblatt*) believes this to be the result of constriction of the central artery of the retina. It begins with a sense of tension in the eye, and a slight veiling of the field of vision. If the subject looks at a luminous object, it appears surrounded by the colors of the spectrum. A cold douche after a steam bath or extreme heat may cause it. It is common at night and is without clinical significance, but shows that the sympathetic system, Adamkiewitz says, may act on a single small blood-vessel.

GLYCOSURIA IN LIFE INSURANCE.—Siredey has studied the question of life insurance for patients with glycosuria, reporting his results at the recent congress held in Amsterdam. (*Medecine Moderne*, October 2 and 9, 1901). He states that simple glycosuria is often but the beginning of diabetes, and diabetic patients frequently void urine which contains no sugar. Glycosuria may be hepatic, pancreatic, nervous, traumatic, toxic, infectious, arthritic, etc. Clinically, diabetes is divided into acute or "lean" diabetes, and chronic or "fat" diabetes. Nervous or traumatic diabetes may come under either of these types. Death in diabetes occurs with secondary infection, as tuberculosis, pneumonia, and other infectious diseases; concomitant affections, as arteriosclerosis, gout, etc.; or diabetic coma. The last named is seen mainly in young subjects. Siredey concludes that patients under thirty-five with diabetes, no matter how good their health may be,

should not be accepted for life insurance; that all cases of "lean" diabetes should also be refused; that such cases, when due to emotion, worry, or traumatism, may be put off six months, and then admitted, perhaps, should later examination be favorable; and that cases of "fat" diabetes of thirty-five or less, whose organs are found healthy upon thorough examination, should be accepted, the annual premium to be slightly raised year by year.—*Journal Des Practiciens*, October 12, 1901, (15me. Année, No. 41. Abstracted by M. O., for Philadelphia Medical Journal.

THE NEUROTIC INDICATIONS OF PRE-SENILITY.—Allan McLane Hamilton, after studying a large number of cases of pre-senility, has come to the conclusion that there are many symptoms, especially disturbances of the nervous system, which are often unrecognized and which invariably indicate commencing disturbances due to vascular degeneration. He does not believe that sufficient attention has been paid to the study of the pulse and heart in arteriosclerosis in connection with mental variation and deterioration. He does not believe that the importance of vertigo as an indication of progressive arterial occlusion has received due attention. There can be no question but that a "pre-senile," so far as the matter of disturbances are concerned is likely to be influenced greatly by excesses in diet or by the indulgence in alcohol, tobacco or venery.—*T. L. C. Medical Record*, December 28, 1901.

TREATMENT AND PROGNOSIS IN NEURITIS.—*Pennsylvania Medical Journal*—F. Savary Pearce says that pressure neuritis, the result of a continued pressure of some consecutive hours, will, as a rule, be cured with the use of galvanism and massage within two to three months. Alcoholism makes the prognosis worse. Relapses may occur. Degeneration of peripheral nerve trunks after severance is usually grave as to prognosis, unless the operation of suturing is done. Septic cases of neuritis are usually favorable, if of interstitial type, and will subside under treatment within a few weeks after the primal seat of

infection has been eradicated. Alcoholic neuritis is most difficult to prognosticate; first attacks are usually recovered from in a year or eighteen months under careful treatment. Neuritis from lead or mercury poisoning may leave local palsies and tendencies to relapse. Neuritis from diphtheria is apt to be fulgurant and more severe when antitoxin has been used. To reach neuritis due to gastro-intestinal disorders on the gouty or rheumatic diathesis, the original disease must be treated.

A CASE OF SUDDEN BLINDNESS SUBSEQUENT TO CAUTERIZATION OF THE NOSE, is reported by Stein Baker, *Cleveland Medical Gazette*. The middle turbinated body on right side was cauterized in a man for hypertrophic rhinitis. After a second cauterization pain developed on same side of face and back of eyeball. Two decided chills and a rise of temperature were present, with somnolency.

Three weeks later blurring of sight of right eye, which terminated after three days in total blindness. Three days following this, dimness of left vision became apparent.

A large, offensive-smelling, grayish-green slough, filling the right nostril, was removed with difficulty, leaving a bleeding, ulcerated surface.

Patient put on iodide of potassium and bichloride of mercury, increasing doses. On the fourth day improvement commenced, and in six weeks' time his vision was again normal.

QUINQUAID'S SIGN OF ALCOHOLISM.—The test can be made by placing the patient's fingers so that one is separate from the other and then firmly rest them across the observer's hand at right angles. For several seconds nothing unusual is noted, then follow slight blows, as if the bones of each finger were thrown back suddenly one upon the other and struck the palm. The pressure on the observer's hand should be moderate. The crepitations vary from a slight rubbing to a true crackling. Aubry maintains that the sign is pathological and may be present in those who have indulged but little in alcoholics. Sometimes it

disappears rapidly after abstincnce in some, but may persist for a long time under similar habits in others. It may be absent in some habitual drinkers.—*Journal of Inebriety.*

MASKED EPILEPSY.—Dr. Richard Dewey reports the case of a twenty-one year old man against whom an indictment for burglary had been returned, under circumstances so peculiar as to raise a doubt of his mental integrity. (*Milwaukee Med. Jour.* Vol. IV). He had broken into a dry goods store in the night and when captured had two pairs of socks in his possession worth ten cents. He had previously borne a good reputation. The mother was migrainous in early life. The father was irritable and had been a sleep walker in youth. The patient ever since he could remember would have attacks when he would have to lie down. These attacks were sometimes accompanied by a blank period. When five years old he would often give up play, seem sick and go to bed remaining dull, indifferent and not answering when spoken to for about five days. This condition had recurred every six weeks up to the time when he came under Dr. Dewey's observation. These attacks occurred at night sometimes when the patient would often be hard groaning and would fail to get up in the morning as usual. On the night when arrested he had met the midnight train as usual with his omnibus but four hours later was caught as described. He made no attempt to escape and denied all knowledge of his act when told of it. He had only been unconscious according to his statement once. When approaching a railroad crossing nine miles distant from his home all knowledge left him and the next thing he knew he was putting out the team at home. Soon after coming under Dr. Dewey's care, while playing cards with his attendant the patient suddenly and unexpectedly put down the cards, got up, went to his room, put on his overcoat and cap, started down stairs without saying anything and went to the village. The attendant spoke to him repeatedly without reply. The attendant finally turned him about and they returned to the Sanitarium, the patient not speaking. He seemed dull and con-

fused. The attendant helped him to undress. At about 12:30 the same night he got up dressed, extracted the keys from underneath the pillow of the attendant, opened a locked window screen and went down the fire escape. At 3 a. m. he found himself lying in the snow near the sidewalk in the main street of the village. He thinks he had fallen down, slipping on the snow and that this woke him. He got up and returned to the Sanitarium. He seemed dazed but went to bed and slept until noon. On awaking, he had no recollection of what had happened to him after he stopped playing cards, until he found himself lying in the snow in the village. Under bromides the patient steadily improved, gaining in weight and in physical and mental activity. The case is regarded by Dr. Dewey as one of larvated epilepsy.

GROSS LESIONS OF THE BASAL GANGLIA.—Dr. M. L. Perry, M.D., of Milledgeville, Ga., Pathologist to the State Sanitarium, in reprint from the *Medical Record*, Nov. 2, 1901, discussing these cases concludes: 1. The corpus striatum (caudate and lenticular nuclei) has no intimate relation with either the motor or the psychical spheres. 2. There may be a very extensive lesion involving both the caudate and the lenticular nuclei without giving any symptoms. 3. There is in the posterior portion of the lateral nucleus of the optic thalamus an area, irritation of which will produce immediate loss of consciousness with convulsive movements upon the opposite side, and destruction of which will produce immediate death. 4. There may be a tumor of considerable size involving the pineal gland without giving any pressure symptoms. 5. The pineal gland may be entirely destroyed by disease without producing symptoms. 6. There is no tract of nerve fibers originating in the pineal gland and connecting it with the remainder of the brain.

INTESTINAL TOXHAEMIA AND PARESIS.—The *Edinburgh Medical Journal* for December, 1901, contains a critical review article by Dr. John Macpherson, analyzing contri-

butions by Drs. Bruce and Ford Robertson on this subject. This writer Bruce seeks to establish that the symptoms of general paralysis are caused by a bacterial toxin which is constantly or intermittently poured into the system, presumably from the intestinal canal, while Ford Robertson found twelve cases in gastro-intestinal lesions, which he believes to have been the effects of a toxic conditions. Both authors conclude that general paralysis depends on gastro-intestinal autointoxication which results from excessive growth of the micro-organisms that normally inhabit the alimentary tract. Macpherson, while he considers it premature to conclude that the symptoms of general paralysis are wholly referable to gastro-intestinal autointoxication says there is every reason to believe that such intoxication plays a most important part in the order and development of its symptoms.

NEURO-THERAPY.

MASSAGE IN HEMIPLEGIA.—It has long been recognized that much of the loss of power in paralysis is due rather to disuse from a belief that the destructive lesions are greater than they are. For this reason massage and exercise often produce remarkable results, Douglass B. Graham (*Boston Medical Journal*, December 12, 1901) states that in the absence of severe pain, obstinate contraction or tonic spasm massage is of value in improving the circulation temperature, and growth of the parts affected. He is of opinion that it is possible to educate other parts of the cortex to take the place of those injured.

ANTIKAMNIA IN SCIATIC PAIN.—Dr. Fred. E. Davis, of Brookside, Alabama, writes to the *Annals of Gynecology*, that his success with this agent has been phenomenal with Antikamnia and Heroine Tablets.

SUBARACHNOID COCAINIZATION.—Spinal anesthesia was so universally used in the various hospitals that it was deemed advisable to give the method a trial at the City

Hospital. It was therefore employed in five cases, two of which were labor cases and three for minor operations on the lower extremities. Although our experience with spinal anesthesia was very brief, it, nevertheless, demonstrated its inferiority to general anesthesia with chloroform and ether. In the two cases of labor it was found, firstly, to diminish the labor pains; secondly, to cause the patient to remove all voluntary assistance in the contraction of the uterus; thirdly, to prolong labor; fourthly, in one case labor continued so long that a second injection had to be administered; fifthly, the patient suffered greatly for twenty-four hours after delivery from headache, nausea and fever. One of the other cases was an old nephritic, who a short time after the anesthetic, was compelled to keep his bed continuously, and died three weeks after the operation from chronic interstitial nephritis.

The disadvantages of this form of anesthesia noted during our brief observations were: First, the quite extensive preparation of both patient and cocaine necessary; second, the danger of infection from the carrying of the bacteria of the skin into the spinal canal; third, the danger of piercing the spinal veins, causing hemorrhage about the cord; fourth, the consciousness of the patient during the operation and the great mental strain caused by it; fifth, the rigidity of the muscles, which would make this method very impracticable in abdominal surgery, as it would be difficult to retain the bowel in the abdominal cavity on account of the increased intra-abdominal pressure. This would increase the liability of general infection of the peritoneum in cases of abscess in any part of the abdominal cavity. Sixth, the disagreeable after-effects, such as high fever and nervous symptoms. No particular advantages of this form of anesthesia over that of chloroform and ether were noted; it was therefore discontinued.—*Annual Report of Dr. H. L. Nietert, Sup. City Hospital, St. Louis, for 1901.*

THE PERSONAL ELEMENTS OF ERROR IN THERAPEUTICS.—Another great element of error is dependent upon the mimicry by neurasthenia and hysteria of so many

seemingly organic disorders. There are few constitutional disorders which are not simulated by hysteria and neurasthenia. This is due, in part, to the popular medical notion that hysteria is simply malingering and that neurasthenia is not an organic disease, but is purely functional like the "neuroses" of the older nosologists. Both hysteria and neurasthenia produce secondary states of autointoxication which give a decided organic semblance to their symptoms. Another element of error arises from the environment in which therapeutic observations are made, and the effects of this environment on the mentality of the physician. This occurs not only in general practice, but likewise in hospitals, and even in "rest cure" practice in which the physician is supposed to exercise the greatest possible individual supervision. One of the greatest apostles of the "rest cure" did not discover the untoward effects of bromids in epilepsy and other neuroses until thirty years after they had been pointed out by neurologists the world over. Here the error was due to relying upon the trained nurse for observation, and accepting her results unanalyzed and unsupervised without question. Furthermore, it is a singular illustration of the undue influence of authority in increasing the prevalence of this error, that a prominent American therapist, who had written a work on epilepsy, never discovered the untoward effects of the bromids despite the copious American, Danish, French, German, Hungarian, Italian, and Russian literature on the subject until the "apostle of the rest cure" before mentioned, reported cases. The general practitioner is of necessity biased because of the uncertain factors of administration and observation with which he has to deal, on the part of the family. The nurse of the general hospital is too often so surgically or quackishly biased as to fail to notice aught but the assumed general effect of a remedy. The physician who relies upon her observation has generally a broken reed to lean upon, so far as knowledge of therapeutic results is concerned.

This element underlies pathology as well as diagnosis, as evidenced by the alleged wonderful cures of reflex neuroses unknown to neurology. In many of these instances

recovery has resulted not through any reflex action of the remedy, but simply through the removal of temporary auto-intoxication produced by the disease. The belief in the reflex nature, however, vitiates the results of the surgeon who neglects preliminary, as well as post-operative dietetic and other treatment. From this neglect results the frequent cases of insanity and neurasthenia. This is especially true of cases in which operation has been indicated, and has been assumed sufficient to effect a complete recovery. If the patients recover from the neurasthenia or insanity, the beneficial results are attributed to the operation. If they do not, the operation has been successful but the neurasthenia or insanity is charged to other and later causes. Another strongly marked personal element of error in therapeutics as related to diagnosis, is that arising from ignoring through ignorance or prejudice, remissions in constitutional disorders. The great neuroses, like locomotor ataxia, paretic dementia, multiple cerebral sclerosis, etc., have periods of remission during which the patient seems to the average observer to have regained his former health. Many of these remissions are called "cures" by the advertising specialists, Christian Scientists, the miracle workers, as well as physicians biased by the reflex notion, or by intense faith in some medicinal or surgical procedure. It is obvious that a physician who does not recognize remissions will have an enormous number of cures compared with the physician who does.—George F. Butler, M. D., Alma, Mich.

INTERNAL MEDICINE.—The different treatments of Basedow's disease.—Le Filliatre sums up the various treatments for exophthalmic goitre. In 1843 Graves recommended digitalis to calm the heart's action. Stokes gave iodine; Parry bled; Rousseau prescribed iodine. Jaccoud in 1873 relied mainly upon diet. In general, medicaments have given few successes. Grissolle, Hutchinson and Lereboullet believe in iron. Graefe and Day consider it absolutely contra-indicated, and in fact it exaggerates the cardio-vascular symptoms and ought not be used. Bromides have been given symptomatically, but they have no efficacy

in pure Basedow's disease. The vaso-constrictive action of ergot suggests its use and a few successes have been reported but many more failures. Dujardin-Beaumetz claims astonishing results from hypodermic injections of duboisin. Aconite ameliorates the neuralgic pains, according to Hutchinson. G. See and Liegeois attribute some successes to veratrin; others have failed with it. G. De Mussy and Wilson have tried arsenic and improved the anemia. Ipecac has been employed recently by Dieulafoy. Thyroidine is lauded by some and opposed by others. Thyroidectomy kills one out of five patients and the other four are not always benefited; some are made worse. Ligature of the thyroid arteries is difficult and has the same dangers as thyroidectomy. Exothyropexy gives few good results. Sympathectomy results in syncopes, recidives and complications. The effect of ice is disputed; hydrotherapy has numerous partisans. Vigouroux avoids shock by using tepid water, gradually reducing to a temperature that will have a sedative effect. Electrotherapy, defended by Vigouroux, has been adopted by Charcot and Richer. The milk diet is the best. By following a severe regime, and methodic faradization a notable improvement, sometimes a cure, will be obtained.

--*Medical Review.*

NEURO-PHYSIOLOGY.

CEREBRAL HEAT CENTERS.—First. Specific thermogenic centers exist in the brain and spinal cord, and these centers are connected with each other and with various parts of the body, especially with the skeletal muscles and skin, by specific afferent and efferent thermogenic nerves. Second. These centers in the brain are either thermo-accelerator or thermo-inhibitory. Third. The center in the spinal cord is a general or reflex center. Fourth. The brain centers probably affect heat production by acting upon the spinal center. Fifth. The spinal center when separated by section from the brain centers is able to maintain the normal standard of heat production. Sixth. The activities of

these centers are largely influenced by the changes in the temperature of the blood, and by cutaneous impulses which are probably generated in the peripheries of the "heat" and "cold" nerves. Seventh. The caudate nuclei contain an important thermo-inhibitory center. Eighth. That the pons and bulb probably contain a thermo-accelerator center. Ninth. A thermo-inhibitory center is located in the dog in the first cerebral convolution posterior to and in the vicinity of the sulcus cruciatus, and that possibly another such center extends downward from the junction of the supra-sylvian and post-sylvian fissures to the posterior fissure. Tenth. There is no adequate evidence to lead to the belief that specific heat centers exist in any other parts of the body than in those above noted. The writer has confirmed these views by experiments upon dogs, anesthetized with a mixture of ether and chloroform and where the brain was cut after trephining.

The mean rises in temperature vary in degree in accordance with the region affected. The temperature curves exhibited distinct characteristics, and such as to indicate the organ involved. Thus, after section of the caudate nuclei, the temperature tended to increase for approximately three hours on an average and then subside. In the sections of the crura cerebri the mean maximum rise was reached in about the same time, but the temperature curve rose only half as rapidly. In the pontine experiments the rise is not quite so rapid as in the caudate series, but there is a marked tendency to a steady increase for from six to seven hours or more, or until fatal hyperpyrexia is established. These differences can be better appreciated by a glance at the accompanying curves of the caudate, crural and pontine experiments. The marked differences in the mean temperature curves of the caudate and pontine sections indicate that the thermo-accelerator centers in these structures differ at least in power—the latter being the stronger—if not in other important features. That they are functionally different has been shown conclusively in experiments in which the experimenter injected powerful pyretics and antipyretics in large doses after the sections.

For instance, after section of the caudate nuclei, and after section of the crura cerebi, the administration of cocaine and morphin has no effect upon the temperature changes caused by the section; cocaine neither increases the rise nor hinders the fall; nor does morphin hinder the rise or hasten the fall, unless given in such quantities as to seriously affect the circulation, etc. It seems from this that the direct action of both cocaine and morphin upon the heat mechanism is upon the thermo-accelerator center in the caudate nuclei. This subject has, however, so important a bearing upon febrile processes, and is of such scope, that a further consideration must be left for a special article.—*Abstract from (E. T. Reichert) Philadelphia, Jour. A. M. A., Jan. 18, 1902.*

MUSCULAR ACTION OF ARTERIES.—A. H. Smith (*N. Y. Medical Journal*, June 1, 1901) states that recent studies seem to show that physiologically the whole arterial tree is only a continuation of the left heart, and therefore is essentially a muscular organ. Each pulsation is produced by a wave of muscular contraction beginning in the auricle, and passing through the ventricle into the aorta and along each subdivision until the capillaries are reached. The importance to the circulation of this muscular action in the vessels can scarcely be overestimated. Its efficacy as an aid to the heart in the propulsion of the blood is evident at once. The mechanism is a delicate one, and liable to be impaired whenever the physical properties of the vascular walls undergo a change. The effect of calcification in destroying the elasticity of the vessel and making its walls rigid, is what we think of first in this connection. The mechanical obstacle which this condition presents to the forward movement of the blood is of the first importance, and this is enhanced when fibrosis of the outer coat is added. In the latter case the innervation to the arterial walls is impaired or cut off at certain points. The resulting impairment of muscular action throws just so much more labor upon the heart, which is compelled to force the blood unaided through the entire round of the circulation. That hypertrophy of the

ventricle should follow is only an illustration of a general law proportioning a muscular growth to muscular activity.—*St. Louis Medical Review*, July 6, 1901.

ABSENCE OF SUPERIOR LONGITUDINAL FISSURES.—

Under the caption Prefrontal Lobes and Localisation of Mental Functions in the *Journal of Medical Science*, January, 1902, P. W. McDonald, M. D., Medical Superintendent, Dorset County Asylum, reports an interesting case with autopsy. The man was not possessed of reasoning power, or of any of the higher or finer intellectual faculties, but he was unquestionably the possessor of a certain amount of intelligence as shown by his childish precociousness. After a lingering illness he died from chronic pulmonary disease at about the age of sixty. By the aid of his mutterings and signs he was able to make himself fairly well understood, *e. g.* if he had a pain he would shake his head violently, muttering unintelligible jargon, and place his hand over the spot.

From its defective and irregular development this brain is of unusual and exceptional interest, not only to the anatomist but equally to the physiologist and medico-psychologist. Professor Reid, of Aberdeen University, examined the brain, and found absence of the superior longitudinal fissure in the region of the frontal and the anterior part of parietal regions, so that here the lobes of opposite sides are quite continuous with each other, the convolutions passing across without interruption. There is also a marked want of development of the frontal lobes. The patient's head was fairly well shaped; he had not a flattened or receding forehead, but had an enormously thickened frontal bone, in places over half an inch in thickness. Dr. McDonald thinks this and other cases establish a sound link in the evidence which has helped to build up the universal belief that the prefrontal lobes are concerned with the highest intellectual operations.

But how about the Pheneas P. Gage "tamping iron case" and Sir Arty Cooper's frontal fractured sailor, who fell from the yardarm of a ship, striking a capstan, losing

brain and bone enough to make a depression, Sir Artly could put his fist in, without loss of intellect.

THERAPEUTICS.

CLIMATOLOGY OF NEURASTHENIA.—Dr. F. Savary Pearce of Philadelphia expresses the opinion that (*Medical News*, January 26, 1901) it is almost axiomatic that an altitude of over 2,000 feet is unsuitable for the neurasthenically disposed or convalescent patient. Any very "stimulating" climate should be avoided. Other conditions to be avoided are as follows: Districts menaced by high winds and frequent fogs; cloudy saturated atmospheres with but slight movements of air current, low country (sea level) with continuous non-varying although moderate heat as where the effect of the Gulf Stream is strongly felt. Thus the Bermuda Islands and Florida are enervating localities. Ideal conditions for the neurasthenic include sea-air in a well-wooded country far enough from the coast to avoid its fogs. A sea voyage is, as a rule, an excellent preliminary to other climatic measures. Provided the voyage be not stormy, it acts both physically and psychically in soothing the nervous system. In order to obtain the full benefit of correct climatic conditions the patient must have good food. Without this important adjunct the desirable climatic change may be entirely defeated in its effect on the patient.

NEURO-DIAGNOSIS.

THE IDENTIFICATION OF CRIMINALS THROUGH THE FUNDUS OF THE EYE.—M. F. Weymann, M. D., Professor of Ophthalmology and Otology, Central Medical College, St. Joseph, Mo., *Jour. A. M. A.*, maintains that anybody may at any time, with a certainty, be identified by the anatomical conformation of the fundus oculi; in fact that the disposition of the arteria centralis retinæ and its branches alone would be sufficient for the purpose.

Though a casual observation would fail to do so, identification by a previously made—and that with the greatest

exactitude—drawing of the fundus would leave no room for doubt. While there are many details sufficiently characteristic in the papilla, yet there is enough inconsistency to make them unavailable.

Absolute identification can be obtained by a drawing (exact as a photographic reproduction or nearly so) of the papilla and a surrounding retinal circle distant from the scleral ring by two papillary diameters. So great is the multiplicity of the anatomical relations of the vascular twigs that he has never been able to find even two fellow organs exactly alike.

The points to be considered are:

First. The method of division (dichotomous or otherwise).

Second. The exact point of division.

Third. The exact angle of the vessels with the primary meridians.

Fourth. The exact distance of one divisional point from the other.

Fifth. The relative size of the divided twigs.

Sixth. The angle of division.

Seventh. The course of the twigs (straight, curved, etc.).

Eighth. The exact distance, everywhere and at every point between venous and arterial branches (parallelism, convergence or divergence, twining, etc.)

While other marks may be added, they are, though perhaps valuable, not needed. No knowledge of pathology is required. Identifying inspection could not be made by a collective glance, but only by the most scrupulous attention to every structural detail. It would therefore, require some time. The only condition that might impair the value of this test would be impossibility of fundus exploration due to clouding of the media.

CLINICAL PSYCHIATRY.

PRECOCIOUS DEMENTIA.—Esquirol, the eminent French alienist, in his chapter on idiocy, described many years ago

the cases of so-called acquired imbecility. These cases happen in children who were once intellectually bright. They are among the tragedies of pubescence. Such children may have shown a marked degree of susceptibility. In the language of Esquirol, they were lively and possessed of a brilliant imagination with a precocious intellect. But they quickly ran their course; their minds came to a standstill; they acquired nothing more, and the hopes which they once gave, vanished. The tragic cases thus outlined by Esquirol may be seen in every asylum. They are classed as imbeciles, and the story of the wreckage of their minds is too often dismissed in that convenient term. But in the *American Journal of Insanity* for October, there is an abstract of a paper on "Dementia Praecox" by Dr. J. Christison, Physician to the National Asylum at Charenton in France, in which there is presented a careful analysis of this important mental affliction which has led to the undoing of so many youthful minds.

The characteristics of this juvenile dementia are its appearance at the age of puberty; various delirious symptoms at the beginning; constant sudden impulses; and a rapid termination in a dementia which is more or less complete. Dr. Christison calls this disease also "Hebephrenia Gravis." It represents an obscure disease process which sweeps, as it were, through the brain cortex in juveniles and leaves naught but a wreck behind.

Dr. Christison describes this important disease in a paper that is well worth the study not only of the psychiatrist but also of the general clinician. Here is a disease which offers problems; one which with one fell swoop wipes out the functions of the brain cortex. In pathology there is no problem more complex, more engrossing, more fascinating than this.—*Editorial Philadelphia Medical Journal, January 11.*

SEXUAL PRECOCITY.—Dr. A. L. Wolbarst of New York reports (*Journal of the American Medical Association*, Sept. 28, 1901) that among the tenement house population of New York that this coitus method of infection is responsible for most cases of gonorrhea in boys and girls. Tene-

ment house children are often initiated in coitus at an extremely early age. Dark cellars, water closets and roofs offer excellent opportunities, first for experiment, later for enjoyment. Boys and girls who have not yet reached puberty indulge in coitus. Contact with children who have had curiosity satisfied, arouses sexual appetite in these children of the tenement and so-called "red light" district at an age when impressions are easily made and habits contracted. Excessive sexual desire results which is not difficult to satisfy. Gonorrhea in three boys aged respectively four, five and twelve years had been acquired by coitus with girls ranging from ten to twelve years. In each case the girl made the first advances. The four-year-old boy had been raped by a twelve-year-old girl. Some cases were due to pæderasty. This is quite common among tenement house children. Gonorrhea was sometimes due to an attempt of a female to rid herself of the disease by cohabiting with a male "virgin." This folklore was brought to the United states from Europe and is found in Shakespere. It promises that those of either sex suffering from gonorrhea who cohabit with a virgin of the opposite sex, will thereby rid themselves of the disease.

A DEOPATHIC CHRISTOPATHIC PARANOIAC PRAYER.

—Morbid mind gone wrong on the revelation of God and Christ to Nature and her laws, displays itself in the morbid egoism of the following insane prayer for a dyspeptic by Mr. Hazzard, president of the New York School of Primitive and Practical Christian Sciences: "Holy Reality! We believe in Thee that Thou art everywhere present. We *really* believe it. Blessed Reality, we do not pretend to believe, think we believe, believe that we believe. We believe. Believing that Thou art everywhere present, we believe that Thou art in this patient's stomach, in every fiber, in every cell, in every atom, that Thou art the sole only Reality of that stomach. Heavenly, Holy Reality, we *will* try not to be such hypocrites and infidels as every day of our lives to affirm our faith in Thee and then immediately begin to tell how sick we are, forgetting that Thou

art everything and that Thou art not sick, and therefore that nothing in this universe was ever sick, is now sick, or can be sick. Forgive us our sins in that we have this day talked about our backaches, that we have told our neighbors that our food hurts us, that we mentioned to a visitor that there was a lump in our stomach, that we have wasted our valuable time, which should have been spent in Thy service, in worrying for fear that our stomach would grow worse, in that we have disobeyed Thy blessed law in thinking that some kind of medicine would help us. We know, Father and Mother of us all, that there is no such thing as a really diseased stomach; that the disease is the Carnal Mortal Mind given over to the World, the Flesh and the Devil; that the mortal mind is a twist, a distortion, a false attitude, the Harmatia of Thought. Shining and Glorious Verity, we recognize the great and splendid fact that the moment we really believe the Truth, Disease ceases to trouble us; that the Truth is that there is no Disease in either *real* Body or Mind; that in the Mind what *seems* to be a *disease* is a false belief, a Parasite, a hateful excrescence, and that what happens in the Body is the shadow of the Lie in the Soul. Lord, help us to believe that all evil is utterly unreal; that it is silly to be sick, absurd to be ailing, wicked to be wailing, atheism and denial of God to say, 'I am sick.' Help us to stoutly affirm with our hand in Your hand, with our eyes fixed on Thee, that we have no dyspepsia, that we never had dyspepsia, that we will never have dyspepsia, that there is no such thing, that there never was any such thing, and that there never will be any such thing. Amen."—Faith Healing and Christian Science, by Miss Alice Fielding, p. 214.



HENRY WALDO COE, M.D., of Portland, Oregon, companion in neuriatry and psychiatry, a picture of whose face adorns this number of the ALIENIST AND NEUROLOGIST, is one of the foremost of Pacific coast physicians. He is withal a genial, jovial, cultured, companionable gentleman, like so many others of his cordial-souled confrères of America's occident. He is the well-known director of Mount Tabor Sanitarium for nervous and mental diseases, consulting neurologist for the Oregon and Washington state institutions for defectives, consulting alienist for the Oregon State Insane Asylum and neurologist to Multnomah County Hospital, member of the Oregon State and Portland City Medical Societies, member of the American Medical Association, American Medico-Psychological Association. He has been an effective force in the uplifting and advance of psychiatry in his own and adjoining states, and the genial rays of his professional influence and warm personality are felt by his brethren and by the people of the whole country.

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EDITORIAL.

[All Unsigned Editorials are written by the Editor.]

THE LOUISIANA PURCHASE EXPOSITION, from the Government, State, City and personal aid it is receiving, the energy of its promoters and the interest of home and foreign governments in the way of promised exhibits, promises to be the grandest in display as it is in scope and design of the first decade of the new century. It is projected to commemorate the transfer of the vast territory of Louisiana by France to the United States out of which many populous and prosperous states have been made. France sold us, as Napoleon said at the time, an Empire, and events since 1803 have verified the great Emperor's statement and those who shall come to witness this grandly projected exposition will see the imperial splendor of this empire section of this Imperial Republic displayed in marvelous exhibit of resource never before

shown in this or any other country. The Louisiana Purchase Exposition will be the crowning show of the world's resources and grandeur for the first decade at least of the twentieth century.

The world has never seen its like and may not in this century see its like again. If 1903 is too near at hand for its beginning as contemplated, 1905 will probably be the final date of its opening.

A SINGULAR LEGAL VIEW.—Circuit Judge Fisher, of St. Louis, deciding the antitoxin damage cases held that the Board of Health is a charitable institution and that the municipality is not bound to protect and preserve the public health. Other points were made but we only discuss this one. It is conceded that city corporations are liable for reasonable protection of property and police protection, including reasonable regard for life and limb, but the periling and destruction of health and life through medical negligence is no concern of the city. This is a singular view but courts and people often hold queer views on matters of health and physicians.

A JUDICIAL BLUNDER.—Edward Forshay was released from the Illinois Asylum for Insane Criminals at Chester, Ill., Jan. 6, on a writ of habeas corpus, issued by Circuit Judge William Hartzell.

Forshay was committed to the asylum October 14, 1901, by Judge Abner Smith of the Criminal Court of Cook County, under conviction for murder. He killed his wife at their home in Chicago last June. When he was brought to trial the jury decided that he was insane at the time the crime was committed and his commitment to the asylum followed.

An inquisition to establish his sanity was heard today by Judge Hartzell. The jury pronounced him sane, and Judge Hartzell issued the writ for his release.

Forshay left for Kansas City, in company with his sisters.

The insane had better not have the benefit of the insanity plea unless they are detained long enough after acquittal to assure the safety of the community from the con-

sequences of a probable recurrence of their malady. The law should provide for a five years detention in case of acquittal on ground of insanity.

NECROPHILISM, according to Maschka, raises always the presumption of mental defect requiring investigation into the sanity of the affected individuals. In any case, Krafft-Ebing says, an abnormal and decidedly perverse sensuality is required to overcome the natural repugnance which man has for a corpse and permit a feeling of pleasure to be experienced from sexual congress with a cadaver. This question is likely to be raised from a late occurrence in Danville, Illinois, where a recently buried body was found desecrated by a necrophilist aged eighteen. The accused had been an inmate of the Pontiac reformatory and was out on parole at the time of the necrophilic act. Great as must be the weight attached to the opinion of Maschka and Krafft-Ebing, still the question of sanity must turn on the power of control and not on the tendency. As J. G. Kiernan points out, a bizarre imperative conception associates an orgasm with death and the trappings of woe. Brouardel reports the case of a physician who is an extremely good, generous individual, chaste and continent, but the paraphernalia of mourning, a passing funeral even, excites his genitalic sensations to such a degree that he has found it impossible to attend even the burial services of his relatives. This association, Kiernan remarks (*ALIENIST AND NEUROLOGIST April 1891*), seems to land us in what Ribot calls the "realm of caprice" yet the psychologic law governing it is simple. Grief destroys the emotional balance and unless the grief itself be sufficiently inhibitory, the primitive instincts spring to the surface and find expression in funeral feasts and orgies or in an association of the kind just cited. Independently of this the abulia resultant on grief leaves the mind peculiarly open to obsessions from accidental causes. How far this association may extend, is shown by necrophilism and by the fact that Brouardel has been obliged to establish surveillance at the Paris Morgue because several persons were in the habit of masturbating

in the presence of the dead bodies. The attendants on morgues often fall victims to necrophilism. Most of the cases observed in the United States have been of this type. In a case reported by Taxtil, a prominent French priest had a prostitute chalked to resemble a corpse, placed in a catafalque in a room hung with black. He then recites the offices of the dead and at a certain point copulates. From this obsession to a tendency to violate dead bodies is but a step. The French Sergeant Bertrand, who broke into church yards at great risks to violate and mutilate female bodies, is an instance in point. Under the title of vampirism this propensity was known to the populist from the middle ages down to the early nineteenth century. A fetichic phase of necrophilism sometimes commingled with auto-erotism was evident in the morbid delight in funeral ceremonies and death shown by all the descendants of the mad Juanna of Castile who sat on the throne of France, Spain and Germany down to Louis XV. Juanna sat year after year by the ghastly remains of her husband attired in his rich apparel and jewels. Her son, Charles V delighted in celebrating his own obsequies, by putting on his shroud, placing himself in his coffin, covering himself with the pall and lying as dead, until the requiem had been sung. Philip II had a similar taste. Philip IV hankered after burials and burial places, and lay stretched out as a corpse at full length in his future tomb. Most instances of necrophilism are combined with sadism. Indeed the tendency to desecrate the tomb is a return to a primitive spirit of revenge. For these reasons the question whether necrophilism be the result of insanity or not must be determined by the general mental state of the individual and not by the necrophilic act alone. The Danville individual belongs to a type of youth in whom sadistic tendencies are peculiarly apt to crop out.

CZOLGOSZ WAS SANE, say Drs. McDonald and Spitzka. An exhaustive report on the trial, execution, autopsy and mental status of Czolgosz, the assassin of President McKinley, is given in the *New York Medical Journal* for

January 4, and in the published reports now before us by Drs. Carlos MacDonald and Edward A. Spitzka of New York City. They answer the question as to Czolgosz's insanity negatively both from the symptoms and the autopsy, and their conclusion is in conformity with all the facts elicited: "When Czolgosz shot the President he certainly knew the nature and quality of the act he committed and that the act was morally unlawful and wrong." Mr. Spitzka's microscopic conclusions are as follows:

"There has been found absolutely no condition of any of the viscera that could have been at the bottom of any mental derangement. Taken all in all, the verdict must be 'socially diseased and perverted, but not mentally diseased.' The most horrible violation of human law can not always be condoned by the plea of insanity. The wild beast slumbers in us all. It is not always necessary to invoke insanity to explain its awakening."

E. C. SPITZKA has struck a vigorous psychological blow in his recent *Medical News* article on Czolgosz, against pseudo-psychiatrists who discuss great problems of the brain and mind deranged, without warrant of clinical observation, as if alienism were a matter to be reasoned out on general principles instead of proven from skilfully observed and analysed cerebro-psychic facts in the history of the individual to be passed upon.

All people who act out of the ordinary are neither necessarily insane nor teratologically defective. It belongs to true psychiatry to draw and define right lines of distinction. This subject is not within the analytic reach of that egoistic form of medical mediocrity which sometimes appears in court to tell how simple as the letters of the alphabet are the data of alienism and glibly pronounce conclusion of what insanity is and must be from their blind inner-consciousness, confounding the masters and amusing their better informed professional brethren.

DR. J. T. ESKRIDGE died of Bright's disease last February at St. Luke's hospital. His case was regarded as

hopeless for several years, but he worked on with enthusiastic heroism to the last. He had recovered from pulmonary phthisis, but never attained robust health. Dr. Clayton Parkhill of Denver died in the same month of appendicitis.

Thus in one month Denver has lost its most expert neurologist and most accomplished surgeon.

THE UNVEILING OF THE CELL was discussed by Barker before the British Academy of Medicine, November 19, 1901. He outlined the researches made up to date with regard to the cell, discussed the cell doctrine, and considered morphological investigations and the progress made by physiologists and chemists in this line. Three points seem noteworthy—the extraordinary variety and complexity of the chemical substances given off by the cells to the lymph and blood; the chemical specialization of the various tissues of the body, and the value of chemical and physical conceptions as working hypotheses in the interpretation of life phenomena.

NEW HONORARY MEMBERS OF THE MEDICO-LEGAL SOCIETY, N. Y.—The following names were elected Honorary Members January 15, 1902. The president of the Society, Hon. Clark Bell, prefaced their nomination with the accompanying remarks:

Prof. Dr. Moritz Benedikt, of Vienna, one of the ablest of our colleagues in Vienna.

Prof. Dr. N. S. Davis, of Chicago, Ill., one of the most honored and able names among American physicians.

Judge Robert Earl, of Herkimer, N. Y., ex-Chief Justice New York Court of Appeals.

Prof. Dr. R. Ogden Doremus, ex-President of this society, and the nestor of American chemists.

Prof. Dr. Mierzejewski, of Russia, President of the Society of Psychiatry, of St. Petersburg, Russia.

Dr. A. Motet, Secretary Medico-Legal Society of France, and chairman of Section of Legal Medicine, Paris Medical International Congress of 1900, of Paris, France.

Prof. Dr. Caesar Lombroso, of Italy, one of the most emi-

nent criminologists of our time, for many years, a corresponding member of the society.

Prof. Dr. Charles H. Hughes, Editor of the ALIENIST AND NEUROLOGIST, of St. Louis, Mo., and one of the foremost of American alienists.

A. N. Bell, the veteran editor of the *Sanatarian*, Honorary President of the American Congress of Tuberculosis.

Hon. Abraham R. Lawrence, who has sat upon the bench of the Supreme Court of the State of New York twenty-eight years, and retired near the age limit on December 31, 1901.

Nicholas Senn, M. D., of Chicago, Surgeon General of the State of Illinois.

Prof. Dr. Axel Key, of Stockholm, Sweden, for years a corresponding member of this body, and one of the most eminent medical men in Sweden.

Judge L. A. Emery, a member of the Supreme Court of the State of Maine, who has for years been one of our active members.

The following are also among the other Honorary Members of this honorable body:

Dr. Henry Maudsley, of London.

Prof. Dr. Brouardel, of Paris, France.

Prof. Dr. Krafft-Ebing, of Austria.

Hon. Noah Davis, of New York.

Prof. Dr. Rudolph Virchow, of Berlin.

Prof. Dr. Standford E. Chaillée, of Louisiana.

Hon. Luther R. Marsh, of Middletown, N. Y.

R. H.

THE SURGEON AND THE WORLD'S FAIR.—The Boston *Medical and Surgical Journal* discussing the multiplicity of surgeons under the caption, "Too Many Surgeons," incidentally notes a medical truth in the following which we extract:

"The time is rapidly passing when a man trained in surgery will be regarded as a competent physician. Medicine now demands special training in the same sense that surgery does. This is a professionally recognized truth and

in view of this truth the question arises, are we to see a staff of but one or more surgeons for the work and emergencies of the World's Fair at St. Louis or shall we have a properly organized, mixed, eminently medical and surgical staff, so that if another president should be shot he might have the benefit of the conjoint counsel of the best medical as well as the best surgical judgment. Wounded men need medical as well as surgical care and treatment. The medical staff of the Louisiana Purchase Exposition should have a good and varied staff, as the best hospital is today equipped. Early neurological counsel was badly needed in the Garfield case and might have suggested a more promising plan of treatment. The neural resisting vitality of President McKinley might have been better brought to his aid if well known neurological precepts had been put in practice, to have kept the distinguished victim of assassination, near where he was stricken, in the Buffalo hospital, till his fate might have been ascertained. The saving of nerve center strain helps to heal wounds. Surgery should not be dissevered from neurology and neuropsychology in practice, either before or after the knife.

CHONDRODYSTROPHIA FOETALIS.—Kaufmann in 1892 applied this title to the conditions known as foetal rickets, achondroplasia, chondritis foetalis and micromelia, chondromalacia. In all probability, some of the earlier cases grouped under this head were cases of congenital lues and osteogenesis imperfecta. The essential basis of the disease is an arrest of endochondral ossification, periosteal bone formation being usually left undisturbed. Kaufmann (*Centralblatt f. allgem. Path u. Path. Anat.* B XII) described three forms of the disease. (One) chondrodystrophia cartilaginis; (two) chondrodystrophia malacia in which the development disturbances are associated with softening of the bones and (three) chondrodystrophis hyperplastica in which the cartilage over-production accompanies the lack of osteogenesis. The imperfect cartilage development often resulting as Talbot has pointed out, in imperfections in the extremities. The child has abnormally short extremities often associated with

good and even excessive development of the soft parts. The trunk is as a rule not markedly altered, though it may be short. The pelvis is small and the sternum short and narrow and the spinal column kyphotic. The cranial bones may show excessive ossification or be subject to osteomalacia. Talbot reports the case (*Degeneracy: Its Causes, Signs and Results*, p. 267) of a thirty-eight-year-old man whose face was arrested in development and who had the appearance of a ten year-old-boy. His jaws were small with a protrusion of the lower one. There were no arms but the hands were full sized and attached to the shoulder. Another case was that of a Spanish noble in whom degeneracy was stamped on the entire body. The body was short and the head macrocephalic. The jaws were undeveloped and there was a V-shaped arch. His left hand was located near the shoulder. There are usually two types of faces, one type has a deep sunken nose-root and a cretinoid physiognomy. There is also synostosis of the skull base with resultant shortening. In the other type there is no marked depression of the nose-base but a general flattening of the organ. The basal bones are usually soft. The essential lesion is an arrest of the development of the primary cartilaginous foci, with resultant failure in bone production. Like all arrested development it occurs in families with hereditary taint or in children born of mothers under stress. Some of Kaufmann's cases were the product of incest. It is obvious that the law of economy of growth was in operation here under conditions which disturbed the balanced struggle for existence between the organs and structures of the body.

K.

HOMICIDE AND SUICIDE IN 1901.—The claim that murder is increasing in the United States is hardly borne out by the statistics of 1901. While there were 2050 more homicides in 1900 than in 1889 the homicides in 1901 were 7852 as compared with 8275 in 1900. The suicide rate is, however, increasing; in 1901, 7245 suicides occurred as compared with 6755 in 1900. There has been an irregular increase during the decade just past. Since a panic

occurred during this decade its influence must be accepted as potent. Fluctuations occur for which this particular factor however fails to account. The decade was also cursed by a very depressing disorder, influenza. From the opening of the decade this has been constantly present and from its peculiarly depressing effects influenza played a part in the suicide rate that cannot well be over-estimated. The psychic influence of grip epidemics to which Dr. F. W. Reilly has called attention is far greater than is ordinarily assumed. Suicide depends on ease of execution and on the strength of the impulse which last is aided by the amount of depression co-existing. Despite the influence which monotheistic faiths teaching immortality exerted against suicide, despite the influence of ancient race customs, suicide increases among the civilized people faster in proportion than population. Among the so-called Teutonic races the Germans and Scandinavians have a high suicide rate while the suicide rate among the Hollanders and English-speaking nations is comparatively low. The prevalent notion that suicide is an insane act is erroneous. No act by itself alone is evidence of either sanity or insanity. In non-suicidal races suicide is very strong presumptive evidence of insanity. In very suicidal races it is no evidence either way. Suicide laws may seem useless but experience has shown that burial ceremonies appeal very strongly to the vanity of a dying person. There can be but little doubt that the English law (which prohibited burial ceremonies and ordered the body buried at the junction of four cross roads with a stake through its heart) was psychologically sound. To it in no small degree was due the rapid persistent decrease in suicide in the Scandinavian and Saxon districts of England. Because of the forfeiture of the suicide's goods to the King the law was often dodged in two ways. The verdict of death in a "state of mental aberration" was often returned and legal technicalities were used to disprove suicide. The suicidal impulse may carry toward one form of death only. The suicide who is driven to drowning will avoid death by any other means. A tailor who attempted suicide by drowning in a park lagoon has been driven out

by a policeman with a revolver. Of the means of suicide, carbolic acid is increasingly used. The ease with which it is obtained has no doubt lead to success in many an attempt at suicide which would otherwise have failed. Neither it nor rat poison should be sold except by an apothecary and then only under rigid registration requirements. The variations during the decade were as follows: 1890, 2,040; 1891, 3,531; 1892, 3,860; 1893, 4,436; 1894, 4,912; 1895, 5,759; 1896, 6,530; 1897, 6,600; 1898, 5,920; 1899, 5,340; 1900, 6,755; 1901, 7,245.

The influence of labor during the pre-puberty (13-14) and pre-maturity period (18-25) should receive attention. Suicide before 18 is growing in the United States. The strain from child labor through increased puberty stress is undoubtedly increasing neurasthenic melancholia and hence suicidal tendencies. As civilization advances defectives born of more primitive states succumb in suicide to the stress of the struggle for existence because the environment proves unsuitable to them. The speculative commercial atmosphere of the last decade arising from decrease of settled investments for capital, likewise played an enormous part in creating the unstable emotional states which predispose to the sway of the suicidal impulse. J.

DR. JAMES RODMAN.—Dr. James Rodman, who died January 10th at his home in Hopkinsville, Ky., was one of the most eminent and honored members of the profession of Kentucky. Born at New Castle, Ky., in 1829, graduated in medicine at the Medical Department of the University of Louisville in 1849, appointed in 1861 the first Superintendent of the Feeble-Minded Institute at Frankfort, and Superintendent of the Western Lunatic Asylum at Hopkinsville in 1863, his life was full of public professional honor. He belonged to a medical family, his brother, Dr. Hugh B. Rodman, and his nephew, Dr. W. B. Rodman of Frankfort, Ky., being physicians of distinction; and Dr. William L. Rodman, Professor of Surgery in the Medico-Chirurgical College and the Woman's College, of Philadelphia, is his nephew. Dr. Rodman was eminent and skillful as a psychiatric

clinician, distinguished likewise for his general medical knowledge, ability and extensive learning. Hosts of hearty friends were fraternally wedded to him and he will be sadly missed by all who had the pleasure of enjoying his genial friendship.

THE POWER OF THE PRESS, outside its editorial pages, seems now largely devoted to the salvation of lost manhood sufferers, female regulation, and the booming of fake mines and fake medicine wonders. Our secular contemporaries should have a bureau where weak men might see the weak manhood editor and get editorial advice as to the best of the numerous quacks they advertise, and on whom ladies in trouble might call for sympathetic counsel. The enterprise of our daily newspaper would then be complete.

DR. LOEB'S DISCOVERY AND HIS THEORY OF NERVE IMPULSES.—The January number of *Medicus*, the new busy practitioners' journal, has this to say on this subject: "The University of Chicago has an enormous endowment. It has able men to fill its various chairs. It is necessary for such an institution to accomplish something. Unfortunately the university seems to seek fame quickly made through the medium of the newspapers before it has obtained a slower but more solid credit for its work in the professional or scientific press. We learned from the daily papers that a new epoch-making discovery had been made at the University of Chicago by Dr. Loeb. The newspapers received the news the day before this startling discovery came to the general scientific public through a paper read by Dr. A. F. Matthews, professor of physiological chemistry in the university. This discovery really is a theory based upon some facts already known, and this theory proposes to explain precisely how nerve impulses are conveyed along the nerve; that is, the theory proposes to explain the alterations, chemical and physical, in the nerve substance as the impulse passes through it, also how and why these changes come about.

The explanation is something of this nature. First, the nervous substance is colloidal in its nature. It has

been known for some time that the nerve substance is a colloid, that is, a substance which consists of a proteid combined with a carbohydrate, forming a more or less gelatinous mass which is insoluble in water but is soluble in weak alkaline solutions. Now the central nerve substance is looked upon as composed of these colloid particles *in solution*. "The colloidal particles are held in solution," by *positively charged ions*, such as sodium, potassium, calcium, hydrogen, etc. The passage of a stimulus along the nerve is marked by "the passage of these colloidal particles from a condition of solution to one of gelatization or jellying," that is, an alteration in the liquid vehicle is produced such that these colloid particles are for the time no longer soluble and hence pass into a temporary gelatinous condition. These alterations are brought about by the action of negatively charged ions, that is ions which are charged with negative electricity. (Consult American Text Book of Physiology Vol. I, page 67, for the theory of electrically charged ions in a solution.)

The real facts in all this had been known already. It has been known for some time that the flow of nerve impulse is somehow associated with a current of negative electricity. But we know that the nerve impulse is not a nerve electric wave or current, for its rate of transmission is very different, it is much slower than electrical transmission.

The really new portion of Dr. Matthews' paper was a theoretic attempt to show how electrical, chemical, and mechanical stimuli to the nerve all produce similar effects because they set up similar disturbances of the electrical conditions. But after the colloid particles are gelatinized by a negative electric influence, there is no explanation of how the colloid is again so rapidly brought back to a state of solution, nor are there really definite explanations of the exact nature of either the gelatization nor of degelatization.

But the theory apparently gives some very pretty results. For instance general anaesthesia loses all its mystery. We are told: "All anaesthetics such as chloroform and ether dissolve fats. The colloids in the nerves are

largely fat compounds and more soluble in a mixture of ether and water than in water alone." Thus the colloid body is kept in solution even in the presence of the negative stimulation, no gelatinization takes place, and hence no nerve impression of pain is conveyed from a wound to the central organs of perception. Dr. Loeb says: "The influence" of an anæsthetic is proportional to its ability to dissolve fat. This would all be very remarkable if true, but it is scarcely credible. This part of the theory is crude and lacks any scientific confirmation.

Similarly drunkenness is said to resemble anæsthesia. It is due to the alcohol in some way interfering with the gelatinization of colloid particles in the nervous system. Immediately following this is a lucid explanation of the manner in which alcohol will cure snake bite. We are told, "The effect of snake bite was shown by Darwin to be the coagulation of the nerve colloids. This is the way it causes death. But the effect of alcohol is to dilute this substance, so if alcohol can reach the nerves and brain cells in time, it will prevent the action of the snake poison."

Mirabile dictu, and to come from a great university! In the first place, does alcohol really cure snake bite?

The University of Chicago has given several quasi great discoveries to science. Salt solution was the elixir of life. Fertilization was no longer a mystery but was declared to be due to certain "chemical irritations." A great law in astronomy was made known. All these have become generally discredited, and it is really humiliating to American science.

There may be some truth in the new theory. It may afford ground to stand upon for future investigations, although even this is questionable. But certainly its pretensions are greater than the real state of things warrants. But alcohol rather indurates than dissolves tissue and has a remarkable affinity for water, etc.

THE COMMITTEE ON PATHOLOGIC EXHIBIT for the American Medical Association is anxious to secure materials for the coming session at Saratoga June 10th to 13th,

inclusive. This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens but the allied fields, bacteriology, haematology, physiology and biology were well represented. It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in medical colleges. This exhibit has already become a permanent feature of the annual sessions of the American Medical Association and the Committee is desirous of securing its list of exhibits as early as possible and to this end asks those having desirable materials to communicate with any member of the Committee.

To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification and by such specialization enhance the usefulness of the display. Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the Committee and due credit will be given in the published reports. Very respectfully,

F. M. JEFFRIES, 214 E. 34th St., New York City.

W. A. EVANS, 103 State St., Suite 1403, Chicago, Ill.

ROGER G. PERKINS, West.Res.Med.School, Cleveland, O.

Committee on Pathologic Exhibit, American Med. Ass'n.

THE DEATH OF LEVI COOPER LANE.—The death of Dr. Lane took place on February 18, 1902. Memorial services under the auspices of the Faculty of Cooper Medical College were held in the Auditorium on Sunday, March 9. The *Occidental Medical Times* justly speaks of the deceased as a citizen and physician of kind and gentle bearing; strong in his convictions; fearless in upholding the truth; a scholar and great lover of books, deep and clear in his lectures, and a hard student. As a physician and surgeon, he possibly had no equal in our western country. As a philanthropist, his name will ever be revered. His founding of Cooper Medical College, the Lane Hospital, the Lane

Lectures, etc., will stand as a perpetual monument and everlasting exponent of the two great qualities that ruled his life, the love of his profession and that of humanity, the giving to the world of the physician, the relief of his fellow-beings. In every respect, his life was exemplary, leaving to his students of the past and the future, and the profession, a goal that only the same noble life and aspirations can possibly attain. To the profession at large, the loss is irreparable.

THE PSYCHICALLY FIT FOR FREEDOM.--The jewel of political liberty is too priceless to be thrown to hogs. Only the psychically fit should own it. True American political liberty means regulated liberty and freedom to take part in regulating self and others by law, "commanding what is right, prohibiting what is wrong;" personal freedom within the bounds of right to others, that personal freedom which secures life, liberty and a chance for happiness through law to the possessor who does unto others as he would that others might do unto him. The liberty to surrender to law the personal right of self-defense and personal government in many matters for the weal of all, involves the right to aid in governing others by law. This is another thing from the freedom of unrestrained license for which ignorance and anarchy clamor. This freedom regulated by law is the only freedom possible to large numbers and it involves the necessity of intelligence and a pliant mind well disposed toward law, above anarchism and ultra altruism. To secure the benefits of freedom to all against the vicious and the ill-meaning strong, either armed organization or civil combination, with arms behind it must exist. Those who enter this combination in the name of free government should be the well disposed and the right minded. It is folly for a free government like ours to open the flood gates of a foreign vicious immigration and dilute the franchise so as to take in the vicious criminal scum of European and Asiatic ignorance and crime and hope to escape the perils of unstable society. What may we expect of communities given the right to vote and made of the erratic, unstable, violent, and vicious and every way degraded minded, but

unstable and degraded action in public life and at the polls, if these vicious vipers are allowed to vote. Fountains of political equity and intelligence do not rise higher than their source in any people. Unless patriotic enlightened statesmen come to the front, who know something or are willing to learn something of the psychology of vice and crime and degradation and apply the right and timely political remedy American free government, organized in the sacred name of Liberty and Law will become a misleading myth.

Let the statesmen look well also just now to the wrongs emanating from the intelligent mighty, the men of monied might, the land and franchise grabbers, who without charity for others, grab only for themselves, in the name of law, without fraternal consideration for their less fortunate fellowman. Let them see that these do not wrong the people through vicious, oppressive law.

THE AMERICAN ASSOCIATION OF UROLOGISTS was organized in New York on February 22, 1902, essentially for the purpose of further development of the study of urinary organs and their diseases. Ramon Guiteras, M. D., President; Wm. K. Otis, M. D., Vice-President; John Van der Poel, M. D., Treasurer; Ferd C. Valentine, M. D., Secretary; A. D. Mabie, M. D., Assistant Secretary.

THE BOARD OF TRUSTEES of the Butler Hospital at Providence, R. I., on the suggestion of Superintendent Dr. G. Alden Blumer, has eliminated wholly from its official title the words "for the insane."

We join the *Journal A. M. A.* in commending this advance in designation of hospitals for the insane. They are hospitals for the afflicted and sick as other hospitals are. One is just as truly ill if affected in the psychic areas of the brain's cortex as though he were ill in his liver, lights or stomach.

DR. PAUL F. MUNDE, the New York gynecologist, and known throughout the world, died at his home Feb. 7, 1902. He was broad-minded, and took cognizance of the importance of the nervous system in the consideration of the diseases of women.

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

THE CZOLGOSZ CASE.—By Edward C. Spitzka, M. D.,
of New York. Reprinted from *The Philadelphia Medical
Journal*, Oct., 26, 1901.

Dr. E. C. Spitzka in this paper makes the following pertinent points in criticism of the authentic conduct of this case. It was not necessary for the counsel for the defense to anticipate the prosecuting attorney by calling up the emotions of the jury on behalf of the martyr victim of his client. The district attorney scarcely went so far as the defendant's council in this respect.

Dr. Spitzka refers to the existence of possible accessories, since to his mind there are features in the crime which point to their existence. "The subterfuge of the bandaged hand strikingly suggests a female source; at all events the prisoner does not exhibit the appearance of that intelligent spontaneity this dastardly trick presumes. His itinerarium of the four months preceding the murder brought him in collusion with persons notoriously associated with an international set of anarchists. Barely a year ago this very set was affiliated with the notorious anarchist's leader, Malatesta, and about the time of his visit as well as shortly thereafter there were several warnings, anonymous and otherwise of a plan aiming at the leading crowned heads. Two of these warnings mentioned the President of the United States as included in the list of intended victims. The warnings were too nearly simultaneous and preceded from too widely separate quarters, South America, the States and Europe, to have been fortuitously coincident practical jokes. The event has proven the reality of such a plot; no doubt some of the selected soloists experienced

stage fright at the critical moment, and not all defalcators could be substituted with as prompt effectiveness as was Sperandio by Bresci. But within a few weeks of Czolgozs' deed, we have Pietrucci's suicidal attempts revealing prematurely the mission of Romaline; we have further the suicide of de Burgal and the arrest of several bearers of related missions at Hamburg, in Buenos Ayres, and at St. Petersburg.

"The method of arresting suspected accessories of Czolgosz, followed by the police authorities of several of our cities, smacks of the same panicky stupidity that induced the authorities to grant a paranoid in the President's native city a guard of soldiers to protect him against the phantoms of persecutorial delirium. It was at random and so stupidly initiated and carried out, that instead of furthering the interest of justice, it simply furnished opportunity for damage suits on the part of the parties arrested—which these last are too wise to avail themselves of.

"To closet such persons in jail together with full opportunities for reading the daily papers and seeing emissaries passing and repassing from one to the other, as was done in several instances in connection with this case, were worthy of the palmiest days of Abdera. Solitude, time and uncertain expectancy are motive springs for confession and betrayal of associates, whose employment has at all times been regarded as essential to the end of justice in case of dangers menacing the safety of the State. But to not one of these has recourse been had and the authorities lost prestige with the public, and the awe of the guilty by this random and inconsistent procedure."

This entire paper is instructive reading, but we must reluctantly forbear from further extract.

LECONS SUR LES MALADIES DU SYSTEME NERVEUX
(Année 1897-1898). Par F. Raymond, Professeur de clinique des Maladies nerveuses à la Faculté de Médecine de Paris Médecin de le Salpêtrière. Recueillies et Publiées par Le Dr. E. Ricklin, clinique de la Faculte de Médecine de Paris (Hospice de la Salpêtrière). Quatrième

Séries, avec 59 figures dans le texte et 2 planches en couleurs hors texte. Octave Doin, éditeur, 8, place de L'Odéon, Paris, 1900, 6.

This course of study on Diseases of the Nervous System, at the Salpêtrière Hospital in Paris, was inaugurated in 1882 by Charcot, and continued since 1894 by Professor F. Raymond. This publication consists of five large volumes; the last appeared a few weeks ago.

They constitute a homogeneous work, comprise the most varied subjects: "Isolated paralysis of the peripheral nerves;" "radicular paralysis;" "polyneuritis;" "alternate paralysis;" thirty lectures altogether are interesting features. "Affections of the *cauda equina* and the *conus terminalis*;" "compression of the spinal cord by tumors, by Pott's disease;" "sub-occipital Pott's disease;" "progressive and chronic ankylosing disease;" "traumatic hemisection of the spinal cord; syphilitic myelitis;" "acute ascending paralysis, anterior poliomyelitis and of poli-neuritis;" "progressive muscular atrophy, of Friedrich's disease, of *tabes dorsalis* and its treatment by re-education of the muscles;" "syringomyelia;" "diffuse sclerosis, especially considered in its latent forms;" "Little's disease;" "Thomsen's disease;" "lateral amyotrophic sclerosis;" "bulbar paralysis;" "pseudo-bulbar paralysis;" "ophthal-moplegia in its relation to loco-motor ataxia;" "circumscribed lesions of the region of the *corpora quadrigemina*;" curious cases of "hereditary atrophy of the papilla;" "juvenile general paralysis;" "diffuse tubercular meningitis;" "scleroderma;" "infantile myxœdema" and thyroid medication for the latter. "Partial epilepsy," "cerebral tumors," "cerebral localizations" and "topography of the cortical centres of sensibility;" "hysteria in relation to the different affections of the nervous system," "systematic contracture," "hystero-traumatism," "verbal surdity," "myo-clonia," "heredity in nervous pathology," "ambulatory delirium," etc.

The historical evolution of neuropathology is here presented in a captivating manner under titles: "The Work of a Man" (Charcot); "The Work of an Epoch." The

text of these five volumes are written in a clear and lively style; all illustrated by hundreds of figures and numerous colored plates. Raymond's work will prove interesting not only to specialists, but to general practitioners of medicine and surgery who wish to keep abreast of the times. It has been most favorably criticised by the medical press, both French and foreign, by men most eminent in neuro-pathology. Whatever emanates from the facile pen of Prof. Raymond is worthy of perusal by the profession. His lectures, both oral and written, are always forceful, instructive and captivating.

A PRACTICAL MANUAL OF INSANITY. For the student and general practitioner. By Daniel R. Brower, A. M., M.D., LL.D., Professor of Nervous and Mental Diseases in Rush Medical College, University of Chicago, and in the Post-Graduate Medical School, Chicago; and Henry M. Bannister, A. M., M.D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Handsome octavo of 426 pages, with a large number of full-page inserts. Philadelphia and London; W. B. Saunders & Company, 1902. Cloth, \$3.00 net.

No graduate in medicine is thoroughly equipped to practice his profession unless he be acquainted with at least the rudiments of the science of psychiatry. Broad though its domain and difficult of mastery, yet every one may readily acquire knowledge of those principles upon which depend a successful treatment of those cases of mental disorder that form a part of every physician's practice. This work, intended for the student and general practitioner, is an intelligible, up-to-date exposition of the leading facts of psychiatry, and will be found of invaluable service, especially to the busy practitioner unable to yield the time for a more exhaustive study. Special features of the work are the mention of the forms of insanity not usually met with in hospitals, and the including of a comparative table of classification and a chapter on some of the ethical questions relating to insanity as they may arise in the practice of medicine.

SAUNDERS' AMERICAN YEAR-BOOK. The American Year Book of Medicine and Surgery for 1902. A yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists under the editorial charge of George M. Gould, A. M., M. D. In two volumes—Volume I, including *General Medicine*, octavo, 700 pages, illustrated; Volume II, *General Surgery*, octavo, 684 pages, illustrated. Philadelphia and London. W. B. Saunders & Co. 1902. Per volume: Cloth, \$3.00 net; Half Morocco, \$3.75 net.

The contents of these volumes, critically selected from leading journals, monographs, and text-books, is much more than a compilation of data. The extracts are carefully edited and commented upon by eminent specialists, the reader thus obtaining, not only a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, but also the invaluable annotations and criticisms of the editor, all leaders in their several specialties. As usual, this issue of the Year-Book is not lacking in its illustrative feature; for, besides a large number of text-cuts, the Surgery volume contains five, and the Medicine volume four, full-page inserts. In every way the Year-Book of 1902 fully upholds, if it does not strengthen, the reputation won by its predecessors.

The contributions to Neurology under the headings of General Medicine, Pathology and Physiology as well as under the distinctive caption of Nervous and Mental Diseases, by Archibald Church, will specially interest the many readers of the ALIENIST AND NEUROLOGIST.

A TEXT BOOK ON PRACTICAL OBSTETRICS. By Egbert H. Grandin, M.D. Gynecologist to the Columbus Hospital; Consulting Gynecologist to the French Hospital; Fellow of the American Gynecological Society of the New York Academy of Medicine, of the New York Obstetrical Society, etc., etc., with the collaboration of George W.

Jarman, M.D. Gynecologist to Cancer Hospital; Instructor in Gynecology in the Medical Department of the Columbia University; Fellow of the American Gynecological Society of the New York Academy of Medicine, etc. Third edition, revised and enlarged. Illustrated with fifty-two full page photographic plates and one hundred and five illustrations in the text. $6\frac{1}{2} \times 9\frac{1}{2}$ inches. Pages xiv, 511. Extra cloth, \$4.00 net; sheep \$4.75 net. F. A. Davis Company, publishers, 1914-16 Cherry street, Philadelphia.

A plain, practical well illustrated work of merit. Some of the illustrations are unique and specially instructive for the student and young practitioner who may lack extensive practical obstetrical experience. The entire process of parturition is illustrated in the book. The book would be a fit companion to the text of the great work of Ramsbotham.

THE DIAGNOSIS OF NERVOUS AND MENTAL DISEASES.

By Howell T. Perishing, M. D., Professor of Nervous and Mental Diseases in the University of Denver; Neurologist to St. Luke's Hospital; Consultant in Nervous and Mental Diseases to the Arapahoe County Hospital; Member of the American Neurological Association. Illustrated, 12mo. Published by P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, 1901. Price, in cloth, \$1.25.

A convenient, concise and practical little manual for ready reference of decided merit. It will help the student and economize his time.

VIENT DE PARAITRE.—Bourneville; Recherche cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte rendu du service des épileptiques et des enfants idiots et arrières de Bicêtre:

Tome XXI (1900). Publié avec la collaboration de MM. Grouzon, Dionis du Sejour, Izard, Laurens, Paul-Boncour, Philippe et Obærthur, in-8 de cviii-210 p., avec 19 figures dans le texte et XI planches hors texte.—Prix: 6 fr. Publication du Progrès Médical, 14, rue des Carmes, à Paris.

PSYCHIC TREATMENT. By Edward C. Runge, M. D., Superintendent St. Louis Insane Asylum, St. Louis, Mo.

This is the plea of an enthusiastic devotee to the welfare of the insane, the plea of the clinical psychiater, knowing the peculiarities and needs of the mentally maimed, for better provision and advanced psychic management for their welfare and restoration. The author thus closes this forceful and friendly plea for these, our stricken fellows:

"Whatever the future may have in store for us in the way of brilliant discoveries, our present efforts to restore suffering man to his pristine psychic entirety, or to save him from irreparable damage in his psychic possessions, will ever hold a place of honor in the storehouse of human endeavor."

Sixth Annual Report of the Board of Managers of the Springfield State Hospital of the State of Maryland, Sykesville, Maryland, to His Excellency, the Governor of Maryland, October 1, 1901. Medical officers: Joseph Clement Clark, M.D., Superintendent; John Norfolk Morris, M.D. and Charles J. Carey, M.D., Assistant Physicians; Louise D. Holmes, M.D., and Mary A. Waters, M.D., Assistant Physicians at Women's Group; A. D. McConachie, M.D., Consulting ophthalmologist.

Necessity of a Practical Knowledge of Dietetics, Hydrotherapy and Physico-Mechanic Therapeutics. The need of establishing courses of instruction in these subjects in our medical school. Fenton B. Turck, M. D., Chicago.

Thirty-First Annual Report of the Central State Hospital of Virginia, Petersburg, Va., from the fiscal year ending September 30, 1901. Wm. Francis Drewry, Superintendent and Physician.

Sexual Neurasthenia in the Male; a plea for a more accurate use of the term; treatment of the true form with citation of cases, by Ramon Guiteras, M. D., of New York.

Clinical Contributions. I.—Papillo-Retinitis Due to Chlorosis. II.—Two Cases of Eye-strain Relieved by Ver-

tical Decentractions of Lenses. By Cassius D. Wescott, M. D., Assistant Professor of Ophthalmology, Rush Medical College, and Brown Pusey, M. D., late house surgeon, New York Eye and Ear Infirmary.

The Separate Localization in the Cortex and Subcortex of the Cerebrum of the Representation of Movements and of Muscular and Cutaneous Sensibility. By Charles K. Mills, M. D.

The Trial, Execution, Autopsy and Mental Status of Leon F. Czolgosz, alias Fred Nieman, the Assassin of President McKinley, by Carlos F. Macdonald, A.M., M.D., New York.

Is the Central Fissure Duplicated in the Brain of Carlo Giacomini, Anatomist? A note on Fissural Anomaly, by Edward Anthony Spitzka of New York.

Some Personal Observations of Malarial and Blackwater Fever on the West Coast of Africa. By Vilray P. Blair, M.D., St. Louis, Mo.

Political Assassinations in Some of Their Relations to Psychiatry and Legal Medicine, by Charles K. Mills, M. D., of Philadelphia.

Report of the Medical Superintendent of the Quebec Insane Asylum for the Year 1900. A. Vallée, Medical Superintendent.

.Forty-Sixth Annual Report of the Trustees of the Northampton Insane Hospital, for the Year ending September 30, 1901.

The Plea of a Brave Woman. Published by the Woman's Christian Temperance Union of New York.

Mirror-Writing and the Inverted Image. Albert B. Hale, M. D., and Sydney Kul, M. D., Chicago.

The Present Status of Epileptics in Virginia by William Francis Drewry, M. D., Petersburg, Virginia.

Melancholia and the Toxæmic Theory. A clinical sketch by T. S. Clouston, M.D., F. R. C. P. Ed.

Appendicitis, a Symposium by the Cuyahoga County Medical Society of Cleveland, Ohio, 1900.

A Case of Peripheral Pseudo-Tabes with Exaggerated Reflexes. By Charles K. Mills, M. D.

A Symposium on the Value of Hydrotherapy in Chronic Diseases, by Simon Baruch, M.D.

Treatment of Acromegaly with Pituitary Bodies. Sydney Kuhl, M. D., Chicago.

Remarks on the Traumatic Neuroses. Hugh T. Patrick, M. D., Chicago.

Anomalies and Diseases of the Eye. Flavel B. Tiffany, A.M., M.D.

Forty-fourth Report of the Nova Scotia Hospital, for the year 1900-1901.

Dermoid Tumors, by William Davis Foster, M. D., Kansas City, Mo.

Assimilation of Phosphorous, by R. W. Gardner.

The Perverts, by William Lee Howard.

MELLIN'S FOOD

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SMALL-POX THERAPY.—The prevalence of a mild type of small-pox throughout the country gives the therapy of that disease especial interest at the present time. Vaccination is, of course, unquestionably not to be overlooked as a preventive measure, but in addition infection may be made much more unlikely and, where infection has taken place, the course of the disease considerably shortened and shorn of its terrors by the administration of the valuable anti-purulent ecthol. The Battle Company has just issued a pamphlet dealing with the use of ecthol in this disease. The pamphlet should be in the hands of every physician who may be called upon to treat small-pox. It will be sent to any physician who makes the request.

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than constant coughing. In the more severe cases of bronchitis and in phthisis, the patient is not only made more comfortable, but the disease itself is brought more directly under control by checking the excessive coughing, relieving the pain and bringing the temperature down to the normal standard.

A LESSON FROM THE MASTERS.—The study of the practice and teachings of the really great men in medicine is a fruitful source of knowledge and practical guidance in the management of disease. Two principles are clearly recognizable; first, that nature possesses the ability to successfully combat the acute infectious diseases without the necessity of resort to powerful drugs for the relief of symptoms; second, that treatment is most successful which is most simple and which has for its object the reinforcement of nature's methods of antagonizing the encroachment of the disease processes. The application of these principles constitutes the most successful methods of treating influenza, pneumonia, bronchitis and the numerous winter diseases associated with inflammation of the respiratory organs.

One method of treating these conditions is by administering a powerful and, in truth, a depressing drug for practically every symptom, e. g., opium in some form, to control cough, a cardiac and metabolic depressant to reduce fever, stomach-disturbing remedies as expectorants, etc. This plan of treatment is, authorities assert, antiquated, irrational and ineffective. On the contrary, it is a matter of absolute fact proven by experience, that if a patient with pneumonia, influenza, severe bronchitis, is properly nursed, given adequate easily assimilated nourishment and be given Gray's Glyc. Tonic Comp. in dessert to tablespoonful doses every three or four hours, that patient will withstand the attack much better and be surprisingly free from the pronounced depression which accompanies and succeeds these diseases. This plan of treatment has also the great advantage that the patient is spared the baneful effects of excessive drugging. Gray's Tonic not only fortifies the patient's strength, aids digestion and assimilation, but has

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an unquestionable influence in palliating the symptoms of respiratory inflammation.

THE CONDITION OF DEBILITY and faulty assimilation, which results from the prolonged treatment of syphilis with mercury and iodine, is frequently remarkably improved by Firolyptol (Tilden), in tablespoonful doses three times a day after meals. The syphilitodermata, when occurring in cachectic subjects, are benefited by a persistent use of the same remedy.

AN UP-BUILDER IN POST-GRIPPAL CASES.—Very many of our readers know, by reputation, at least, Dr. A. H. Ohmann-Dumesnil, one of the foremost physicians of St. Louis. From a letter of recent date we are permitted to quote the following, which we do with pleasure. "I needed a roborant, and took, with much benefit to myself, Hagee's Cordial of Cod Liver Oil Compound. Since then I have had occasion to use it in a number of cases of gripe, and in all of them the result was of the best. The action of this preparation is rapid and thorough; and in a remarkably short time a case is recovered. It is certainly the remedy par excellence for this now prevalent affection.

In a number of post-grippal cases in which enteric neuralgia, bronchial involvent, and a number of nervous symptoms manifested themselves I found this preparation equally effective. It is an excellent up-builder, and rapidly restores to its former condition the weight which has been diminished by the waste of tissues consequent to gripe."

This is certainly very high praise and from an eminent authority.—*Massachusetts Medical Journal.*

THE HEALTHY WAY TO BATHE.—Never use hot water. Make the bath short, cool and frequent. Determine by experiment whether you can stand cold water. If you feel invigorated it is beneficial; one may use tepid water, but never hot. One should bathe twice a day at least for mere cleanliness, says Prof. Anthony Barker in an article

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on Home Physical Culture for Women in the February *Delineator*. The morning bath may consist of squeezing a large sponge filled with cold water once on the upper part of the chest and once on the back of the neck while standing in a tub. Then rub vigorously with a coarse towel. After exercising, another bath should be taken. However, do not neglect the exercise if you cannot take the bath. It is better to exercise and go without bath than to bathe and not exercise.

SUBSTITUTION EXTRAORDINARY.—Substitution extraordinary is illustrated in a history supplied by the Farbenfabriken of Elberfeld Company, who have been able to ferret out a most despicable adulteration of chemicals practiced by a band of drug counterfeiters. Not only were the products themselves imitated, but the boxes, labels, etc. Druggists buying aristol, phenacetin, sulfonal, trional, etc., should be on their guard against sophistocated articles. The protest of the manufacturers rightly contends that "both the physician's reputation and the welfare of his patient are at stake in this matter. When, therefore, we protect ourselves against these criminal practices, we believe that we are equally protecting the medical profession."—Editorial in *American Medicine*, December 21, 1901.

THE WABASH has just placed orders for more than \$3,000,000 worth of eighty-pound steel rails. This summer \$1,000,000 in steel rails will be laid on the Wabash lines to Kansas City, to Omaha, and to Des Moines.

Sixty thousand tons of steel rails will be laid on the Wheeling and Lake Erie and on the Pittsburg division. It is the intention to have the rails for the Western lines down in time for the World's Fair in St. Louis. Contracts for the work will soon be let, and the construction will then immediately begin. Orders for these rails have just been placed by President Joseph Ramsey, Jr. He said yesterday: "The finest roadbed in the world is not too good for us. The World's Fair is going to bring hundreds of thousands of people into St. Louis. We intend to make our

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record for carrying visitors to the Fair eclipse that made by us during the Pan-American Exposition at Buffalo."

The road is already figuring on an enlargement of service, and an addition to equipment to handle a tremendously heavy business. Increase in the company's gross earnings for the fiscal year, July 1, 1901 to January 31, 1902, have reached almost \$1,000,000, and the passenger department has made the remarkable record several times of almost equalling the earnings of the freight department. The company's Pittsburg improvements are well under way. Everything in that direction will be completed in time for the Fair, which is the objective time of all the road's improvements.

HELPS FOR THE DEFECTIVE CHILD.—The saddest of all defects in children are those which indicate trouble with the brain. But it has been found that many of these children mentally defective can be taught to control their muscular movements, and after a time they can be taught to talk, to think and to reason after a fashion. Parents who have the affliction of a physically or mentally imperfect child have a great responsibility placed upon them and one from which they should not shrink. A sympathetic and instructive article on this subject appears in the April *Delineator*, wherein are discussed the causes and remedies of various physical and mental imperfections.

TO ST. LOUIS.

Miss Saint Loo',
Of old Missou',
 Bless you and your show.
Pimp yourself and put on style,
Curious eyes shall for a while
 Turn on you, you know.
Miss Saint Loo',
Of old Missou',
 It's your turn and may
 All and you have cause to say
 "Splendid" when you're through.

—S. E. KISER in *Leslie's Weekly*.

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References—Dr. Henry M. Hurd, Dr. Wm. Osler, Johns Hopkins Hospital, Baltimore, Md. Dr. Thomas A. Ashby, Dr. Francis T. Miles and Dr. Geo. Preston, Baltimore, Md. Dr. George H. Rohe, Sykesville, Md. Dr. Charles H. Hughes, St. Louis.

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THE VOYAGER.

Boatman, I am booked for passage
'Cross the River Styx tonight;
But, before embarking, tell me
Is your craft built strong and tight?
See ahead, dark clouds are looming;
When the night at last is o'er,
Through the tempest you can land me
Safely on the other shore?

I have had a weary journey;
Footsore, jaded and oppressed,
Glad the tiresome junket's ending,
Eagerly I near my rest.
Let there be no stay or hindrance,
I have borne my meed of care;
Guide me to the peaceful haven;
Land me safely over there.

As he grasped the oars, spake grimly
Charon, pointing 'cross the deep,
Fear ye not, oh weary traveler,
Put your trust in me and sleep.
Trial, tempest and affliction
Give before my sturdy oar;
Sleep, and on the morn awaken
Where there's rest forevermore.

WILLIAM HOSTER, in *Leslie's Weekly*.

The above might be appropriately termed, A Philosophical Cure for the Soul-Weary.—[Ed.]

THE
ALIENIST AND NEUROLOGIST.

VOL. XXIII. ST. LOUIS, JULY, 1902. No. 3.

**EXTRA-NEURAL OR ADNEURAL NERVOUS
DISEASE.***

SYSTEMIC STATES LEADING TO, PROCEEDING FROM AND BLENDING
WITH NERVOUS DISEASE; MALARIA, ERYTHROCYTES,
THERMASIA, THERMESTHESIA; THEIR EFFECTS
ON THE NEURONES, ETC.

By C. H. HUGHES, M. D.

THE object of this course of lectures is not so much to make you great experts in neurology, (the time is too short and life is too short for that and for the general practice of medicine at the same time), but to teach you to clearly detect and intelligently appreciate nervous states in disease and the relation of other diseases to nervous disease; to make you discriminating in searching out causes and conditions of nervous disease and all the factors of a nerve disease problem. To be a good neurologist, even for the needs of a general practice, you should be a good all around physician and therefore a good diagnostician, for you must differentiate in diagnosis, neural from other diseases and be able to treat the entire patient or to know and

*One of three lectures to the students of Barnes Medical College and of a chapter in a forthcoming book of lectures on Neurology for the use of students. [Illustrations omitted].

advise how, where and when and by whom you should be assisted in your treatment of certain diseases. In nearly all disease the nervous system is more or less in evidence. In some morbid states, though, the nervous system is so prominently affected, though chiefly in a secondary manner, so markedly thus involved, as to be designated as nervous disease. For instance, loco-motor ataxia and general paralysis of the insane are supposed to result from syphilis as the chief predisposing factor, to which some special brain or spinal cord strain, like excessive venery and prolonged stress on the cord or brain or other damage has been super-added, though Drs. Bruce and Ford Robertson* have lately contended that general paralysis is caused by gastro intestinal auto-intoxication, resulting from excessive growth of micro-organisms that normally inhabit the alimentary tract. But in these diseases, changes have taken place in the nerve centers before the classical nervous disease appears. In the first, the posterior columns and root zones of the spinal cord have undergone an indurative tissue change, a proliferation of tissue elements, called sclerosis. In the second the superficial layers of the grey cortex of the brain have become the seat of a subacute inflammatory action with antecedent and resultant vascular and brain substance change. The pial arteries have become inflamed and finally the connective tissue generally and the psychic neurones and psychiomotor neurones are more or less damaged or destroyed. In the beginning, however, you have adneural or extra-neural exudates and pressure excitation, adventitia or adventitious deposits as they are called and their nervous results. This is the pre-paretic stage of paresis as I have elsewhere pointed out.

But there are other diseases of the nervous system due to syphilis in which the nervous system is not implicated in the beginning at least; that is to say, that special part of the nervous system involved in the causing of the symptoms grouped together as cerebral or other forms of syphilis of the nervous system, and yet the symptoms are all nervous, such as syphilitic arteritis of the brain and those forms of cerebral or spinal cord disease which result from the adventitious

*See *Edinburg Medical Journal* for December, 1901.

deposits of syphilis, the exudation of gummata over vital areas of the nervous centers and sometimes involving the peripheral nerves, as in syphilitic neuritis. There is also alcoholic polyneuritis and the lancinating pains of chronic meconism or opium toxhæmia revealed in chronic opium habitués when the repeated doses which cover up the poison and pain are suddenly withdrawn for any cause; those terrible muscular pains which come on synchronously with the exhausting colliquative diarrhoea often, after the accustomed drug is sensibly and suddenly reduced to more than one-half the accustomed daily quantity and which cause the humane physician to prefer the gradual to the abrupt withdrawal of this terrible drug from its unfortunate victims, even though anodynes of the coal tar derivative class may now be substituted for the pains of sudden drug withdrawal. I have termed this implication of the nervous system in disease caused by conditions developed outside of its intimate structure and oppressing, by pressure and compromising nervous functions, extra-neural disease. My friend, Professor Gowers, whose splendid work I have so often commended to you for reading during your leisure hours, calls this condition adneurial disease. Cerebral apoplexy, cerebral embolism, thrombosis, meningeal disease, etc., are of this nature, though sooner or later the brain substance becomes involved, sometimes immediately in some or all of these conditions, except fever and meningitis, and often these soon implicate the brain, though there may be delirium before the brain is injured either by pressure exudate or destruction of substance. The disturbance of brain then comes from the fever poisoned and altered circulation.

This also is extra-neural. But the symptoms are nervous because the brain is disturbed and it is a great nerve center—the greatest nerve center or aggregation of nerve centers of the body; the highest nerve center, composed of the psychic and psycho-motor and sensory neurones.

The recent cranial traumatism that depresses the skull and causes a convulsion which disappears on trephining or chiseling and elevating the depressed bone thereby relieving the oppressed brain, is of this nature. But the resulting structural change in the brain beneath is intra-neural disease and

if the depression last long the "epileptic change" may set in and developed epilepsy or other disease in the brain and the condition is no longer adneural or extra-neural but intra-neural also, because it and the disease cannot be removed by an operation. When the first fits of alcoholic epilepsy come on, their cause is extra-neural, in the sense that we have arteriole dilation or vessel spasm and blood pressure; but a nervous phenomenon, that of vaso-motor paralysis and arteriole dilatation has preceded, while the hereditary epileptics, descended from excessively alcoholized parents, are not adneural epileptics. Their epilepsy is called idiopathic because not due to other and extra-neural causes. The convulsions of childhood are often extra-neural, from the painful irritation of dentition, or from gastro-intestinal or meningeal irritation or irritation elsewhere. Cerebral traumatism may be altogether extra-neural at first simply from skull depression.

The metastasis of a facial erysipelas to the brain is extra-neural in the beginning, that is, its specific toxicity is, but it causes delirium and fatal brain disease as well as the vaso-motor nervous disturbance which results from and accompanies the poison (*streptococcus erysipelas*). The vaso-motor system as well as the *streptococcus* is concerned in the characteristic sharply circumscribed cutaneous erythema which goes along with the specific inflammation the cutaneous and areolar tissue, making this specific disease whose tendency to metastatic change to the brain, you are cautioned in your text-books on practice to guard against, by administering large doses of muriated tincture of iron, etc. Erysipelas is as prone to "strike in" on the brain as parotitis or mumps is to go to the testicles and both are delicate spots to be touched by specific inflammation. The gonococci, too, may migrate from the urethra to the brain as well as to the prostate, testicles and joints* and that fearful looking swelling, gonorrhœal orchitis is not nearly so formidable as that condition of the brain or other nerve

*See *Rheumatism and its Counterfeits*, a clinical lecture at St. Bartholomew's, Nov. 29th, 1901, by Sir Dyce Duckworth, M.D., LL.D. of London, England, reported for the *Philadelphia Medical Journal* January 2, 1901. Whatever this author or lecturer says or writes on the subjects of gout or rheumatism will be profitable for your consideration in the management of those conditions so often connected with nervous disorders.

center following the invasion of gonnocci there. You may have a brain or other nerve center disease on your hands to treat from this cause, as grave as if it came from the poison of syphilis.

Cerebro-spinal-meningitis and diphtheria and their inflammatory exudates are extra-neural, but they give you serious nervous diseases to treat, as grave as paralysis. The cerebro-spinal fever and post-diphtheritic paralyses are more hopeful in prognosis than some other forms, because their cause is extra-neural, something added to the nervous system and not always grave, irreparable, nerve tissue damage as in that true intra-neural disease—posterior spinal sclerosis, for example. These poisons develop abscesses in the brain and other nerve centers as well as the joints and kill often. Gonorrhœa, gout or rheumatism will interest you as much in nervous as in other diseases. I can now speak much more hopefully, however, in regard to staphylococcus or gonococci infection of the brain than my friend, Sir Dyce Duckworth. I have seen, in my own practice, many of these forms of paralysis make complete recoveries. I once had a young man under treatment for paralysis of the upper and lower extremities, also insane and deaf and blind, who recovered everything but his sight in six months from the onset of his post cerebro-spinal-meningeal malady. He became robust and grew to mature manhood in the blind asylum here, where he learned one of the trades of that benevolent institution. Autotoxæmia or self blood poisoning is a fruitful source, as you are ready to surmise from what I have already said of extra-neural or adneural disease. Sydenham and Scudamore, who long ago were authorities on gout, pointed this out and even Hippocrates and Shakespeare. The great English dramatist made many other sagacious medical observations. "The Scripture saith the blood is the life" as physiology teaches, and that immortalized name in the annals of medical literary fiction, Sangrado, who purged and bled and filled his patients with water, (not normal salt water solutions now so valuable in states of depression hypodermically) regarded all disease as extra-neural. He believed

in the value of a *flush* in physic, like my friend Dr. Love who addressed you the other day and a flush is a good thing if you know how to play it in the game of therapeutics where the integrity and life of nerve centers are at stake.*

These adneural affections promise more hope of recovery than many other forms. When you come across them treat the patient constitutionally all over, remembering in your therapeutics the causes that have left the neural sequences and let your motto be "*nil desperandum.*"

These antecedent systemic diseases which result in serious sequelae of neural development and grave systemic nervous diseases show the importance of an all around extensive knowledge of the operations of disease and the necessity of knowing all, in order to work wisely and well on a part, in the practice of medicine. The nervous system in some of the divisions is involved in nearly all altered physiology. Conditions such as we are considering and conditions such as I have hinted at and other morbid phenomena which I might mention, did time permit and some of which are yet so important that I shall have to refer to them that lead the great Dr. Cullen to say that from all he could see of the movements of disease in the human organism they might all, in a manner, be called nervous, or words to that effect. Extra-neural nervous diseases also have their origin in nerve center implication elsewhere than at the place of disease manifestation in the system as in the changes due to disease damage and implication of vaso-motor and heat centers in the brain and those ganglionic chances that cause disease changes

*Since these lectures were delivered my friend, Dr. George F. Butler of Alma, Michigan, in a recent able contribution in that indispensable medical periodical, the *Journal of the American Medical Association*, which you all must have when in practice, opportunely quotes from Sydenham on this very subject and makes some further forceful and pertinent points which I commend to your reading. Sydenham pointed out that suppressed gout (that is, gout without joint expression) exercised marked influence on the constitution. The body, he remarks, "is not the only sufferer and the dependent condition of the patient is not his worst misfortune. The mind suffers with the body, and which suffers most is hard to say. So much do mind and reason lose energy as energy is lost by the body, so susceptible and vacillating is the temper, such a trouble is the patient to others as well as himself, that a fit of gout is a fit of bad temper. To fear, anxiety and other passions, the gouty patient is a continual victim; whilst as the disease departs, the mind regains tranquillity." He also, as Butler notes, "pointed out that gout affected the throat, heart and lungs as in asthma."

and disordered action in the viscera, fourth ventricle changes in glycosuria, and the vagus center changes there causing cardiac, arythmia, tachycardia, etc.

One other subject is so important in the understanding and treatment of nervous diseases of the central Mississippi valley countries of the United States, the west, northwest and south, whose waters wash their way to the Gulf of Mexico through the great Father of Waters, that I must touch it briefly before I close. That subject is malaria in connection with nervous disease. This too gives us many extra-neural nervous conditions to consider.

PLASMODIUM MALARIA, ERYTHROCYTES, THERMASIA, ETC.

The malarial plasmodium which attacks the erythrocytes or fully developed red corpuscles of the blood, as distinguished from the erythroblasts or rudimentary or nucleated red corpuscles will claim your attention many a time and oft in practice. It is interesting to note the selective affinity of this plasmodium, like an endowed intelligence, for the full-grown red corpuscle over the erythroblast, and it will interest you to watch carefully the wicked work of the malarial parasites, developing the remittent and different forms of intermittent fever, as you may see them displayed where most of you live, for these varieties, the remittent, the quotidian, tertian and quartan intermittents, depend for their manifestation on the manner in which the nervous system responds to the presence of malarial germs in the blood and to the form of this pernicious parasite of Laravan. You will see in those excellent plates of C. E. Simon which Duane has put in that useful little dictionary whose definitions I like so well, though I do not always approve his pronunciations, very impressive illustrations of the pernicious work of this poisonous parasite group, whose mischievous and destructive work on the nervous system, central and peripheral, has not all been as yet recorded. Look out for it in your practice. In spring and autumn the rains fill the porous earth and the malaria comes out to cause the astivo-autumnal fevers.

It is your enemy and the enemy of your patient, where or near where many of you live. It is the old marsh miasm

of Elliotson, Watson and the other older writers, now translated into the "bugs of the bogs," as they call them in Texas. Its or rather their, home is in the marshes, bayous, the watery wastes, flats and sloughs, or where the soil is wet and porous and often broken and where the culex mosquito makes his haunt and vegetable decay goes on, and where you may feel at night time the sting, if you do not hear the merry murderous song of this festive anophile. It does not abide altogether in the marshes but migrates to the blood of man. Mosquitos carry it. Perhaps other insects do, the gnat and other culices, and it is wafted on the winds of eventide and the night time after the sun is set. It gets into man's body through air and water and is the *mal air* constituent, carried by the *malarial* water and whence the term malaria. It gets into the body and sporulates there breaking down the red blood corpuscles; it destroys the erythrocytes, as the learned bacteriologists tell us, and when the red blood corpuscles are being destroyed, the beginning of the end has begun with man. Disintegrated blood corpuscles cause anaemia, simple at first and finally pernicious, causing symptoms resembling typhoid, causing vital depression in other forms, anaemic neurasthenia, neuralgia, neuritis, vaso-motor paralyses and its sequent paralysis, the paralyses of malarial congestion and toxæmia. The chill and fever and reactionary sweating, congested and disordered spleen, liver, kidney, bowels; the jaundice, hematemesis, haematuria, etc., and sometimes albuminuria of profound malarial toxæmia, are not the only mischief malaria makes with man, as you can see, for from this poisonous agent may come delirium and coma, which are nerve center symptoms like the chill, etc. It may, in other ways, attack the brain, spinal cord and peripheral nerve centers (the ganglionic) pigmenting them after sporulation, (though pigmentation is not always nervous disease), and marking man for destruction in many ways, through nervous disease not yet, by common professional consent, attributed to this potent poison. So that unless you come skillfully to the rescue with timely and adequate doses of quinine and other anti-malarial and blood reconstructives that kill these parasites,

destroy these microscopic "bugs of the bogs," rebuild the blood and save and restore the damaged nerve centers, and prophylactics against malaria, your patients after a time may die of the consequences of malarial poisoning. It has been the practice on the plantations of the south for more than half a century to use large doses of quinine and other salts of cinchona, dogwood bark, salicin from the willow, etc., as preventive of malarial disease, though Kock speaks lately on the subject as though it were yet new. The old doctors of the marshes and bayous of the west and south can tell you well the old old story of malaria and how they warred against it with quinine, arsenic and other prophylaxis. You must kill the parasitic enemy, cast out the devil of destruction and repair the damage done to the organism, as well as to the blood, in order to save your patient's nervous system, involved in the onslaught of the parasitic invader. Neurotic and haemetic reconstruction will help to save the imperiled nerve centers from damage. So will bromide of ammonium, judiciously used and the cinchona alkaloids and salicin, encalyptus, dogwood bark, etc., liberally employed, and mercurials judiciously given, will drive out and destroy the enemy. You must give attention to general medicine and therapeutics in order to make a good neurologist, as well as to general pathology and diagnosis.

Your study of the malarial plasmodia in connection with their influence on the nervous system will give these parasites of quartan and of estivo-autumnal fever an additional interest and you will pay more attention to the chair of clinical medicine and pathology after these hints as to the neuropathic potentiality of the plasmodium malaria given you. The culex mosquito and perhaps the culex pipens will interest you. For it has been found that there is a female in the case and that the female culex mosquito here, as other females elsewhere, is capable of doing much damage to mankind.

While considering extra-neural affections it is well to note in this connection, those hyperthermal or hyperthermo-haemic states and hypo or a thermo or a thermohaemic (hyper meaning + while θερμός signifies heat wherever you may come

across them in your reading neural effects such as sunstroke and brain inflammations from external violence and certain febrile diseases on the plus side and the rigors and the chills on the minus side which sometimes precede poliomyelitis anterior, as they do pneumonia and as they follow the hypothermia of the febril crises in typhoid fever. These affect the nerve centers as well as the blood and cause phenomena that are called nervous symptoms.

Thermasia (*θερμασία*, heat) the opposite of thermaesthesia, the latter being a paralysis of heat perception, are also to be studied by you in the understanding and mastery of nervous disease.

PUBERTY AND GENIUS.*

By CESARE LOMBROSO, M.D.†

TURIN, ITALY.

AMONG many persons, the first impulse of genius is due to beauty or to love. Petrarch became a poet on seeing Laura on April 6th, 1327. He was then fourteen. "I do not hide from myself," he writes, "that but the little I am, I owe to this woman. If I have a reputation, if I belong to fame, I owe it to the little seed of virtue that nature had hidden in my soul but which she knew how to nourish." Neuchoni states that his first verse was inspired at twenty by the vision of a pretty young girl. According to De Amicis one of the earliest poets in Piedmontese at twenty-two years had not written a single line. Chance led him to encounter in a train a beauteous gracious dame for whom he had long sighed. During the momentary darkness of the tunnel he softly pressed her hand, signifying thus his love which she shared. Some hours later he wrote the first and most beautiful of his poems, "The Shepherd's Dream." He had found his way. Dante declares that his meeting with Beatrice in her early youth rendered him a poet.

Burns, a young shepherd, formed already by his mother in the folk songs of the mountain,‡ composed at fifteen his first poetry. He loved.

*Continued from ALIENIST AND NEUROLOGIST, April, 1902.

†Translated from the *Revue de Psychologie*, December 1901, with comments by James G. Kiernan, M. D., Chicago, Ill.

‡Here as so often Lombroso has failed to verify his authorities. Burns was not a highlander but a lowlander, born in one of the most Teutonic regions of Scotland. The region despite the rigidity of its Calvinism is one of the most poetical of Scotland. The only possible basis for this statement of Lombroso is Burns' description of the first of his many love affairs. It bore no relation to his poetry.

Among others on the contrary religious passion is the inspiration.* The vocation of Lacordaire was shown from the time of his first communion. Rapisardi was thirteen when he wrote that cataract of verse, the ode to St. Agatha.

The most important fact shown by these observations is that they all date from adolescence.

To understand the preponderating nature of an emotion at puberty (all external influences and all strong emotions may act at any moment upon any one but without special reaction) the enormous influence of the psychic features of this period must be remembered, since the period is one when impressionability is at its apogee.

Youth is, so to speak, a state of latent explosibility; it is always on the point of exploding from such and such causes. It may bind itself to scientific conceptions, may be buried in enthusiasm for art or may leap into adventure. The adult may traverse unknown regions, may deliver himself to new hazards, may submit to other habits without this being echoed other than feebly in his mind. His path is laid out, his course of life is fixed. He has his ideas and sentiments settled and it is with difficulty that he is to be influenced.

Important evidence of this view is given by Starbuck† who has examined the motives of religious conversion among two hundred students of American seminaries and high schools.

*Lombroso here ignores the religiosity vicaration of salacity. This is peculiarly frequent in adolescence and its influence has been recognized by psychologists and even by theologians of an analytic type. Poetry, not of a very high type it is true, is frequently written during the emotional condition of puberty by persons who never write in adult life. As Ruskin has pointed out, genius, surging up at this period, is often crushed out by adverse conditions. The period is peculiarly one of stress where the struggle for existence is fiercely waged between the intellectual and the reproductive systems. In the period of puberty therefore, potentialities of intellect may be displayed which disappear ere their fruition.

†The Psychology of Religion, Contemporary Science Series.

	Boys. Per Cent.	Girls. Per Cent.
Influenced by parents.....	32	23
" " family surroundings	52	30
" " friends	42	34
" " pastors.....	29	23
" " professors	6	9
" " special writers.....	17	17
" " love of science	8	3
" " art, music and poetry.....	15	8
" " books	12	10
" " death of parents.....	13	9
" " disgrace	2	9
" " quarrels with friends.....	9	0

The greatest amount of the influence is that referred to relatives, friends, schoolmasters, death, to a sermon or hymn, read or heard, under particular circumstances. What is here of special importance is that the preponderating influence of these factors is most marked during puberty. To this period Starbuck assigns a duration of six years for it comprehends those years which immediately precede or follow true puberty. This is shown in the graphic figures attached to Starbuck's work. The height of the curve corresponding to the most elevated figure of conversions is for boys in the sixteenth year. Another ascension of the curb less than the former is remarked at twelve and a third still more feeble is at nine years.

These figures have a notable resemblance to those which Harnock obtained by means of a mental test for the purpose of establishing the culminating point of intelligence or of the function of reasoning among boys of the country. From responses received by him, it is evident that among geniuses the influence on intelligence among young people has been instantaneous like a sudden revelation disproportionate to its cause. For example, after a fine sermon by a loved and known master or by a friend, after perusal of a book, of a recital, or even of a passage read a hundred times, after hearing music, after a scene of piety not specially striking but on that day in concordance with the mental state of the young subject, conversions have taken place most frequently. What occurs in the case of conver-

sion is often repeated in the choice of a profession.* None can control it. Most of the subjects examined had at the moment of their youth a violent change of character, of tendencies or of ideas; a sort of intermediate state of half insanity as he names it himself. Some presented deep terrible melancholia, others ferocious cynicism and in others brutal and unjustifiable passions were unchained. Marret had observed something analogous among the school children at Turin. Many became brusquely quarrelsome, refractory to discipline and wicked between twelve and thirteen years. In an examination of forty young people, I have found that there is very often manifested, at this same age, ambitious, pyromaniac, or kleptomaniac impulses sometimes alternating with hallucinations and attacks of megalomania. Seven of them between eight and twelve years were seized by strange projects totally out of accord with their environment. They aim at the conquest of isles described by Jules Verne or of the principality of Monaco or of the republic of San Marino. Five stole money from their parents and spent it wildly, because though poor they wished to appear rich and powerful. Five others had ideas of persecution; fear of being imprisoned or of being forced to become soldiers. They were but eight years old. Three exhibited obscene and quarrelsome tendencies; eight were prey to a religious monotheism and wished to become missionaries or hermits. Two manifested obscene impulses, one committed suicide.† I might state further the case of a rich honest young man who, during the evolution of puberty, stole money from the shops, which he immediately threw away or hid under a stone. Another stole shoes and similarly disposed of them. The directress of a Turin college has told me that she has had successively under her charge three sisters. At the age of thirteen every one of them

*Here again Starbuck, Lombroso and Harnock all disregard the mental characteristics of puberty, especially its religiosity. This comparatively unstable emotionality is readily influenced. In hebephrenia this shallow religiosity is petrified for life. A hebephreniac always manifests religiosity in marked contrast with his ethical deficiency.

[La Pubertà.]

†Lombroso does not recognize here the influence of the periods of stress nor the influence of the day dreaming propensity so carefully studied by Miss Learoyd. See Ellis, *Psychology of Sex*, Vol. II.

was sage and tranquil. During the next two years they were all insupportably bad, lying and insubordinate; at sixteen they again became sage and tranquil.

It is certain that at puberty a vital exaltation flings the nervous system into a turmoil which may be fatal to weak minds but may raise the strong to a vertiginous height because at this moment of complete transformation of the organism, the psychic centers suffer most. A great man has well said that if nothing be created during youth nothing will be created later. During this troubling phase of puberty, it is natural that latent energy and activity, until then given free course above all among geniuses, should by the electric shock as a special emotion be pressed in the way temperament tends. It is fertile association which not only polarizes definitely but even leads to the evolution on a large scale of a new and more active organism. It is readily comprehensible that among geniuses occur on a large scale the same phenomena which occur in transitory fashion among normal beings and the same is true of the insane. Among the insane, principally among the sexual psychopaths, there is a similarity or better still analogy of process. Formation of delusional conceptions is identical even if the mind remain normal or below the normal. The impression received by the sexual psychopath during puberty acquires from the onset such a predominance that it tinges his mentality and determines his acts. This explains the erotic fetishism of those who are amorously attracted only by old women in bonnets, by those who hold a candle, etc., facts which neither atavism nor ordinary neuroses will explain. On questioning such patients it is learned that at the moment of the first erotic excitement, due to puberty, often at the end of childhood, they have received, from the image of an old woman in a bonnet or of a woman holding a candle, so strong an impression that thereafter they cannot love without the concurrence of these circumstances.*

*Lombroso here presses the analogy too strongly. As I pointed out more than a decade ago these conditions are referable to obsessions occurring during emotional exaltation irrespective of puberty but dependent on the sexual orgasm. These phenomena (ALIENIST AND NEUROLOGIST, 1891) occur at the sexual orgasm when great emotional exaltation exists and the will in consequence is in abeyance. A man may be seized by an obsession differing from the voluptuous which may enter consciousness while the sexual side remains sub-conscious.

Thus a fetishist of Italian custom charges his erotic perversion to having seen a striking beauty in such a costume. He was then in his sixteenth year. The same thing occurs in genius.

The erotic processes being arrested crystallize around one of those buried stages of erotic excitation, which normally precede the sexual crisis. This intermediate state then takes the importance of the total processes of coitus for which it is a substitute. For example, the Italian costume fetishist need not see the person in the costume, much less speak to her or touch her. It suffices to see the costume. The first moment of sensorial excitation influences him so energetically that the following associations matter little. Many geniuses can never emerge from a circle of ideas with which a strong impression, experienced at the age of puberty, has surrounded them.

Among many hereditary melancholiacs analogous phenomena are observed which explain certain anomalies that neither normal nor pathologic psychology can interpret. There occurs in these patients a vivid impression of a special circumstance which they retain all their life; their mental faculties being otherwise seemingly intact. Marro cites the case of a girl who having heard a lecture on monsters conceived such a horror of them that she believed thereafter that she could always see the monsters. Another moved by the spectacle of a volcanic eruption thought thereafter that she was constantly in a volcano. Still another assisting at a dance in a masked ball was so frightened that every one thereafter appeared to wear masks. The most typical case is that of De Quincey, who at six saw his dead sister stretched on a bier. This impressed him so strongly that thereafter he saw clouds everywhere carrying biers on which were dead girls. He concludes that all the ideas of the grown man are germ in the child.* An occasion, an event apparently futile may suffice to develop them.

Sometimes in certain cases these accidental emotions

*De Quincey was a degenerate and hence liable to premature puberty manifestations. The age of six when the first permanent molar appears is a period of stress at which an emotional turmoil readily occurs and at which sexual phenomena often appear. It may seem bizarre

which induce the onset of genius as they determine insanity do not always coincide with puberty. They may as with De Quincey precede it. If however puberty be considered the period which immediately precedes and immediately follows the exact phase of puberal evolution seen in the precocity of genius; thus may be united childhood and youth. It should be remembered that Mozart composed at five years. Gassendi preached at four. Pico de Mirandola knew several languages at the age of ten. Kotzebue at three wrote his first comedy. Precocity is remarkably early among negroes, Eskimos, etc., and hence seems to be a stigma of degeneracy.* The initiatory impressions of genius often appear very late after puberty. The explanation of this is that circumstances check what may be called the fecundation of genius. Starbuck has observed several cases of conversion after the age of thirty when extreme poverty and family duties constrained the individual to occupy himself solely with the means of livelihood. Caxton, born of poor parents without instruction, became Lord Mayor of London, after having been a clothier's apprentice. He gained the confidence of his patrons and was sent to Holland to represent the Mercer's company. There having heard of the invention of Gutenberg he contributed to spread the field of this discovery.†

Often in these cases even puberty has a great influence in a somewhat latent fashion. Puberty gives birth to the fertilizing conception but the latter is not manifested till later because of adverse circumstances. Thus although Lacordaire had, from the time of his first confession at the age of seven, so great an emotion, that he was led to

that a voluptuous conception should associate an orgasm with death and the trappings of woe. This association seems to land us in what Ribot calls the realm of caprice yet the psychic law (as I pointed out years ago, *ALIENIST AND NEUROLOGIST*, 1891) governing it is simple. Grief destroys the emotional balance and unless the grief itself be sufficiently inhibitory, the primitive instincts spring to the surface and find expression in wakes, funeral feasts and orgies, or an association of the kind just described. Independently of this the abulla resultant on grief leaves the mind peculiarly open to obsessions from accidental causes.

*Precocity, whether of the intellectual or physical type is, as I have elsewhere pointed out, [Medicine, April, 1901] an expression of arrested development at the senile or simian period of intra-uterine life, which occurs at about four and a half months after conception, that causes the child to pass through the periods of growth and senescence rapidly.

†Lombroso here displays his usual tendency to err through measuring circumstances by his mixed Roman-Shemitic standard. Caxton, as the *encyclopedia Britannica* remarks, was a man of considerable polish and had a high reputation for diplomacy. He was sent first by the king to negotiate a treaty with the Duke of Burgundy and was later sent by the Mercer's company. Lombroso curiously enough fails to recognize that the London companies were guilds as aristocratic as those of the Italian city republics, like Florence.

preach to his family with surprising eloquence in a little chapel. He always believed that this was the origin of his career. At twelve religious ardor reappeared with his first communion which, according to him, was the great joy of his life. He then became a lawyer and pleaded with success. Suddenly at twenty a new religious crisis seized him pressing him strongly toward the church.* This decision had evidently had its origin in the emotions felt during puberty and even before.

Berlioz, at twelve had composed a pastoral and was as well initiated by his father in classic study being designed by the latter for medicine. Two years later he was seized with a musical ardor after having seen a page of music for twenty-four hands and having admired the musical variation possible within such a small space. The taste for music fermented in his mind despite his medical labors. At seventeen the Danaides brought him to hate all that was not musical. He could neither sleep nor rest for thinking of music. Thus he left anatomy to become the great composer. In such a case there was an unconscious play of thought before and during puberty. Then there was the secret work of some years and suddenly under the influence of a favorable stimulus the type of genius was determined.

If society, in what concerns the birth of genius, has not a meritorious role, it has however a great influence on its probable orientation. It forms the floating environment, whence proceed the impressions which before or during puberty lead to genius. Among Italians great men are more particularly limited to letters and to art.† Among Jews there are calculators, philosophers and economists. In Piedmont there were generals.

Such are the facts, do they lead to any special conclusions? The practical lesson would be this, that classic edu-

*It is impossible not to recognize here the religiosity vicaration of auto-erotism. See Havelock Ellis, *Psychology of Sex*, Vol. II.

†Here Lombroso is unjust to Italy which has always had as great men in science as in art and literature. Italian science has exhibited so little blague and so much modesty that the average thinker does not at first recognize it until forced to face the names of Galileo, Volti and Galvini not to speak of hundreds of others who are encountered in current periodicals.

cation should be as much reduced as possible since it offers to modern minds but the memory and model of men of the past, having in it nothing but aesthetic advantages. Technical, professional and scientific education should be increased since these furnish to genius the greatest opportunity for creating new things and increasing national power and prosperity as in the United States and Great Britain where genius is equally exhibited in industry and commerce as in the arts and sciences.*

*Lombroso in his last recommendation ignores the fact that It is more easy to crush æsthetic tendencies than to create them. As Macaulay has pointed out, the Commonwealth period, despite its many intellectual stimuli, had such an unæsthetic trend that there was marked dearth of sculptors and artists after the restoration when rewards for art were great. Italy was great in commerce equally with art and science when the Mediterranean Sea was the world's commercial centre. Shifting of this centre was the cause of Italian decadence in commerce and industry, not her classic training. This decadence was aided by the standing army and the civil and religious bureaucracy. Lombroso's cant anent the necessity of industrial training in lieu of classic and literary singularly resembles that of the Philistines of England and the United States whom Dickens has pilloried in Bounderby and Gradgrind.

EXTRA-NEURAL OR ADNEURAL NERVOUS DISEASE.*

EXTRA-NEURAL NERVOUS DISEASE; CHROMATIC AND ACHRO-MATIC NEURONES, CHROMATOLYSIS, THERMAL CHANGES IN THE NEURONES, BRAIN NEURONES AS HEAT CENTERS, ADNEURAL HEAT CHANGES OF NEURONES, MARINESCO AND LUGARO'S LAW OF MORBID NEURONE CHANGE, REFLEX PHENOMENA AND THE NEURONES.*

By C. H. HUGHES, M.D.,
ST. LOUIS.

WHILE traumatism to the brain and spinal cord and disease impression on the heat centers, cause directly induced nervous disease, the over-heating of the neurones and morbid changes in them may take place from superheating of the blood; *i. e.*, by hypohæmothermia as in sunstroke.

Coup de soleil may therefore be either an intra-neural or extra-neural nervous disease; according to the degree to which the neurones are involved and according to the manner in which it may be brought about, whether by the direct rays of a broiling sun overheating directly the neurones of the brain—or by the long continuance of high temperature, or it may be both, *i. e.*, brought about by excessive heat of blood and by direct overheating of the cerebral neurones combined and heat centers.

When appreciably grave nervous disease results from the influence of extra-neural conditions, it is the achromatic

*Second lecture to students of Barnes Medical College. (Continued from page 256.)
[266]

portion of the neurone, the nucleus and motor segments of the cells that appear to be mostly affected. The chromatic or chromophile or stain-receiving portions, if influenced, do not seem to make the subject so markedly interesting to the clinical neurologist. Here is a post-graduate theme for you. We shall however ask you no green room questions on this subject.

Here as elsewhere some influences effect only appearances, others do the real thing. It is when the non-coloring element of the cell or neurone is involved that the chief real harm is done to the nerve centers. Why this is so cytology does not yet fully enlighten us. It is ready to learn from you as the oncoming cyto-scientists and cyto-savants of the profession.

LUGARO'S AND MARINESCO'S LAW OF MORBID NEURONE CHANGE.

Now gentlemen, most authorities say that the fibrillar portion of the achromatic substance subserves the function of conducting the nervous waves. Cajal, Lenhasseck, Robertson, Nissl and some others consider that we are not warranted in attributing the performance of functions to the fibrils alone. The non-organized portion of the achromatic substance is believed by Marinesco to be the seat of intense chemical phenomena and of such importance for the nervous element as to be appropriately designated the trophoplasm, that is the plasma of nutrition. That this substance is the seat of important metabolic changes is amply confirmed by other observers, more especially by Guiseppi Levy from his study of the fuschinophile granules. According to Van Gehuchten, Nissl, Lugaro, Lenhasseck, Cajal and many others the chromophile substance of the protoplasm is a material of reserve, destined to serve for the nutrition of the nervous element. Marinesco believes it serves to augment the difference of potential of the centrifugal nerve wave.*

The cell body contains as you know the nucleus and nucleolus and is the trophic center for the whole cell element as proved by ample experiment which cannot be

*Ford Robertson, *Text-book of Pathology and Nervous and Mental Diseases*, page 222, edit., 1900.

entered upon today. Structural changes accompany modification of function in the cell and *vice versa*, functional changes follow structural changes of the cells as I have already shown you. When the energy of the cell is exhausted by prolonged or excessive activity the cell body and the nucleus are distinctly diminished in volume, the chromophile substance of the cell plasm or cytoplasm is small in amount and appears diffusely granular. During normal activity the chromophile substance is utilized by the cell and slowly diminished in quantity," says Ford Robertson farther. This would seem to me to tend to establish the disintegration of the chromophile substance correlative with cell function and tend to show that it nevertheless has considerable to do with the potentiality of the cell fuchinophile granules of Levi. The nucleolus undergoes an increase in volume and the particles of chromophine adherent to it, consequently tend to become more elongated. During rest the chromophile substance gradually accumulates again, the fuchinophile granules diminish in numbers and the nucleolus assumes a smaller volume."

Thus you see that whatever may be the cause or causes operating to develop nervous disease, whatever cause or gross change takes place in nerve centers or periphery through morbid alterations in blood supply or quality or in the environment of the nerve centers, or from traumatism or other external causes, it is the abnormal impression upon and the morbid response of the neurones, or glial connections and their morbid expression, that gives us generally the phenomena of nervous diseases. Either the mesoglia or the cytoplasm itself, *i. e.*, the cell plasm proper of the neurone either in its nucleus, nucleolus, neuraxone, dendrite, or gemmule, receives and responds in abnormal, crippled fashion to the morbid touch of its environment, whether this morbid touch be a germ, traumatism or a blood element altered in quantity, quality or toxically depraved, causing a change in the blood quality.

Persistent malarial poisoning, chronic alcoholism, repeated attacks of grip, the opium taking habit, habitual

chloral, cocaine, cannabis indica and other narcotic drug habits, all of which are toxic to the neurones and in the beginning extra-neural, being impressions first made through the blood, should have much of your thought in practice. The medical practitioner should be on the lookout for these disturbances. Nerve tire, brain fag, the assaulting and weakening of the neurones are the beginnings of trouble and lead to grave consequences. We have here toxic neurones and nerve centers to deal with. As brain fag and nerve strain precede Bright's disease and dyspepsia ordinarily, and complicate other troubles, so do these extra or adneural states of the blood often precede pronounced nervous disease. The blood may be the life or death of the nerve centers and *vice versa* the life or death of nerve centers may be the life or death of the blood and of the organs the blood nourishes. The moral of this in medical practice is—take care of the neurones and of the blood as well as of the environment of your patients.

The difference therefore between extra or adneural and intra-neural nervous disease is, that in the former the lesion of the nerve cell or some part of the neurone is secondary and functional to the extraneous influence imposed upon it, while the primary lesion has its beginning in the nerve cell or in its proliferations. Intra-neural may also follow extra-neural lesion because the extra-neural embarrassment of the nerve or nerve center causes intra-neural change to sooner or later occur, as when nerve atrophy follows pressure or starvation of the nerve or neurone or nerve center group of neurones. There is an obvious difference too, in the gravity and permanence of the effect resulting from extra and intra-neural change, especially early in the disease. The degenerations begin more tardily from extra-neural nervous disease and are often more readily removable, as in the adneural changes of syphilis, as I have already told you. Syphilitic nervous disease may be both extra and intra-neural. Marinesco* has recognized this fact. He says, "secondary degeneration of the nerve cell is uniform, beginning with disintegration of the chromatic substance in the neighborhood of the axis cylinder or neuraxone and extending to the rest of the neurone. The cell may repair,

or it may atrophy and disappear. In primary degeneration the alterations are variable, grave and many." The achromatic or non-color change substance is likely to become affected and this may make repair impossible and seal the fate of your patient.

The pathology of the neurones, as I have already told you, will interest you in adneural as in other morbid nerve cell changes. They have been a never ceasing source of interest to me and the distinguished observer and author whom I have commended to you will make the subject entrancing to you in your vacation days. He quotes from Lugaro, who has summarized the effects of toxic agents on the nerve cells, much more than I have time to read you or you to listen, but I will give you enough to whet your appetite and in the summertime you may read the rest.^f

And those of you who have mastered the Italian language will find floods of light thrown on the fine anatomy, physiology and pathology of the nervous system by our wonderfully industrious and intelligent Italian confreres Levi, Marinesco, Lugaro, Chiozzi and others.

These extra-neural influences affect the nerve centers through impression on the neurones, their neurites, dendrites, gemmulae, neuroglia or mesoglia. They affect them morphologically by pressure or chemically, as poisons do or by more or less rapid transformation of the physiological function of the neurone into morbid action by anatomical change, and anatomical change in a nerve cell is usually preceded by some sort of molecular change. Now for example the sequellæ of typhoid fever which may be either a delirium or typho-mania, (psychic neurones) a paralysis (psychomotor neurones), or neuritis or neuralgia (peripheral neurones).

There are some influences which affect one part of the cell without immediately at least affecting the other parts of it. For instance, temporarily compressing the abdominal aorta, as Lugaro has shown, will cause a color change

* G. Marinesco Les Polyneuritls en rapport avec les Theorie des Neurones, *Bul. Med.* 1895, n 97, quoted by Ford Robertson.

^fVide Ford Robertson p. 225, Lugaro, Recenti Progressi del' Anatomia de Systema Nervoso in Rapporto alla Psichologia et alla Psichiatria, *Riv. de patol., nerv e ment.*, 1899, 11-12.

(chromotolysis) in the chromophile or chromatic part of the neurone, which color change in the cell will persist for some time after the cause is withdrawn and the functional disturbance has ceased. Artificially induced hypothermia and melonitril poisoning will do the same. Other slow poisonings will do the same and similarly effect the chromophile elements of the neurone while fatal doses of chloroform or ether do not change the chromophile part of the cell, as Lugaro has shown.

The chromatic part of the cell seems to be concerned in the metabolisms and to be affected every time they are disturbed. Says Ford Robertson, "they play a very important role in the functional metabolism of the nervous element, its alterations are a direct index of a nutritive alteration and that function will be entirely suppressed when the structural dispositions of the achromatic (or non-coloring) part of the cell which seems more strictly related to nerve conduction, are altered morphologically or chemically." Among the new problems therefore in the pathology of the neurone is Lugaro's* and Marinesco's law for them, now generally accepted as true by expert cytologists, to which I have already referred and which I repeat to impress you, and that is that changes in chromatic cytoplasm, or color preferring cell tissue or chromophile plasma, as it is differently termed, represent the reaction of the neurone to the cell coloring influence that disturbs the neurone and color causing changes in the neurone.

These chromatic changes in the neurone, and the same is true in neurology as in psychiatry, are reparable, while achromatic changes in the neurone are irreparable and degenerative. Robertson quotes this law with approval in his excellent discussion of the morbid conditions of nerve cells and from whom I would like to read *in extenso* did time permit. Remember I have commended this splendid author for reference during your leisure respite from the exacting demands of this course. It will prove a source of great enlightenment to you on the relation of cell pathology

*Nuovi dati e nuovi problemi nella patologia della cellula nervosa, *Revista di Patologia Nervosi e mentali*, 1896, f. 8. Vide ante from Robertson.

to mental diseases especially and also of cytopathology to neurology. Now this is the conclusion of the matter. Disease is impressed on the neurone, the neuroglia or mesoglia of nerve centers through either chemical or mechanical or morphological change. These neurones have chromatic and achromatic parts and are said to be chromophile or achromophile, chromatic or achromatic; that is, to have either a color selection, love or color aversion or repulsion and love is an affinity in cytology, as well as in psychology and chromophile cytoplasm or neurone changes are capable of regeneration and repair, while achromophile changes in cytoplasm are degenerate and irreparable and this reparability and non-reparability of the different parts of the neurone is Lugaro and Maranesco's law and by this law good diagnostic judges pronounce the verdict of life or death to nerve element and they declare poisons of chronicity or death to your patient in the grasp of a nervous affection. It is a valuable criterion for necroscopic conclusions in the cytopathology of neurology and psychology.

That brilliant observer, Ford Robertson, to whom you note I love to refer as I do, to the masterly Maudsley in matters physio-psychical, (*vide p. 240*) unconsciously touches upon the subject of extra-neural nervous disease without especially mentioning it in the following words under the head of morbid conditions of the nerve cells: "It is necessary to distinguish clearly between special diseases of the nerve cell, and mere types of morbid changes that may be observed to effect it. Changes such as chromatolysis, vacuolation and the pigmentary degeneration, cannot be regarded as diseases of the nerve cell, but only as types of morbid alteration occurring in several forms of disease. At present the only definite diseases of the nerve cell that are known are primary degeneration (in which, however, future research will, without doubt enable us to recognize various distinct forms and secondary degenerations)." I do not, however, concur with him in regard to vacuolation. Vacuolation may be a structural intra-neural as well as neuroglial change. It is destruction of nerve cell or nerve element, or of the connecting neuroglial framework of the neu-

rone, and this is entitled to be regarded as structural nervous disease. If an egg basket is destroyed while it holds the eggs in place as the neuroglia hold the neurones in place, the eggs are apt to be displaced and damaged, if not destroyed. The neurones must similarly suffer in their glial framework under vacuolating change, as in that singular paralytic spinal nervous disease syringomyelia, whose pathology is revealed in gliosis or gliomatosis or abnormal proliferation or hyperplasia of gliomatous tissue and vacuolation, a disease whose pathology I have sometimes curtly called in the clinics holes in the spinal marrow as its Greek origins signify. Syrinx, *συρίγχη*, a tube or canal and myelos, *μυελός*, marrow, a chronic, painful, paræsthetic, thermo-anæsthetic hollowing out disease of the spinal cord with tropic changes in skin, joint and bones which we will discuss more fully later on. Likewise porencephale.

"Chromatolysis," is a color change or disintegration of chromophile cytoplasm according to that eminent cytological authority, Marinesco, introduced by Robertson, who defines it as a disintegration of the chromatic particles of the protoplasm, breaking up the aggregations of the granules that form the Nissl-bodies and gradual disappearance of the individual granules, accompanied in transition stages by their diminished affinity for basic dyes. But it has been frequently used in a wider and more general sense, namely, to indicate the whole series of changes in the constituent elements of the cell, of which dissolution of the chromatic particles is merely the first that is recognizable. Its employment in this wider sense can only lead to confusion, and ought to be abandoned he says; but the clinicians and pathologists will continue to give it this wider meaning while the cyto-microscopists may restrict its pure cytological description. Van Gehuchten employs the term "chromolysis" as a synonym. Chromatolysis or chromolysis has already been indicated. It accompanies primary and secondary degeneration in almost all their forms. Moreover it occurs as a physiological condition in fatigue of the nerve cell, as far as can be determined by microscopical examination, the chromophile part of the cytoplasm is the most sensitive constituent of the

nerve cell under abnormal nutritional conditions. (It is both primary and secondary in cell change). The exact mechanism of the production of chromatolysis in pathological states is little understood. Probably in certain instances there is especially an increased consumption of the chromophile substance, in others especially an arrest of its function."

"Chromatolysis has been observed in the human subject in a very large number of different morbid conditions. Indeed, it is now known that it occurs in some degree in a proportion of the nerve cells of almost every individual on the face of the earth dying a natural death. Even in non-nervous diseases it is very commonly a very extensive and well marked accompaniment of morbid change in the cells of the cerebral cortex, spinal cord, etc. In such cases it is to be attributed to the action of toxic substances generated in the course of the particular disease, to pyrexia, terminal auto-intoxication or local vascular lesions. At the same time abundant evidence has now been accumulated of the special incidence of chromatolysis in various forms of nervous disease. But in these cases it is generally accompanied by other morbid alterations in the cells which at once give to the pathologicsl picture a much graver aspect.

"Marinesco has applied the term 'achromatosis' to a change which consists especially in an extreme degree of chromatolysis—complete disappearance of the chromophile elements of the cytoplasm. In preparations stained with polychrome blue, the cytoplasm appears pale or absolutely colorless, resembling dull glass. He has observed this condition of achromatosis in the cells of the anterior root after evulsion of spinal nerves and in those of the cerebral cortex in diabetes insipidus, leprosy, pellagra, etc. It corresponds morphologically to the extreme degree of the lesion observed to attend experimental elevation of temperature."

This discussion of chromatolysis is a little more complex for advanced students of cytology than we have presented it and you will find much in the same line to interest you farther in Barker and other advanced cytologists, enough to entertain your leisure hours like a story and to reveal to

you how much stranger than literary fiction are the truths of advancing neurocytological science.

The changes other than chromatolithic which take place in the neurone, consist of varicose hypertrophy of the axone or of the axis cylinder process as Golgi described it, the granular changes of Bevan Lewis from which Ford Robertson dissents, nucleal displacements, total or partial neurone obliteration or necrosis, homogenous degeneration and atrophy and other changes not yet designated by name in cytology and other transformations of cells yet to be described. These will add to the marvels of your microscopes, as you may find time to look for them and search out the mysteries of microcosm for yourselves.

Lugaro's more recent views also upon the pathological significance of lesions of the chromatic and achromatic parts of cells considered of so much interest and great practical importance that he quotes as follows, which I give you as still apropos to our subject and in proof, from higher authority, of what I have already said.

"From the complex of the studies that have been made we may also form criteria of the reparability of the lesions. We know that the lesions of the chromatic part of the neurone are the first to appear, in all cases in which the harmful action does not act suddenly and with such energy as to paralyze function; that they are in every case repairable even when very grave, provided that other parts of the cell have not suffered serious damage. It is very doubtful if lesions of the achromatic parts can be repaired, more especially since they very often appear contemporaneously with lesions of the nucleus, the integrity of which is indispensable for the conservation of the cell.

Of great importance is the question if functional disturbances ought to be considered as an expression, pure and simple of the lesions revealed by Nissl, that is to say, of those that concern the chromatic part of the cell. The results of experimental researches tell us clearly that an exact and constant relation there is not; that function can be disturbed without there being any apparent lesion of the chromatic part, which on the other hand may be altered,

even gravely, without our being able to discover any evident functional disturbance.

In acute poisonings, especially by substances which exhibit rapid diffusion and action, such as chloroform and ether, when there is really an imposing symptomatological picture, or when the toxic action has already determined death, one cannot recognize any apparent modifications in the chromatic parts of the nerve cells. Modifications are, on the other hand, very evident in sub-acute poisonings, even before functional disturbances have appeared.

This shows without doubt that the functional activity of the cell can continue even when the chromatic part is injured, and that this part does not possess structural arrangements necessary for the fulfillment of its function, which depends therefore, upon chemical composition, and not upon morphological disposition. If to this we add the fact that the chromatic part is rapidly effected every time that metabolism is disturbed, locally or generally, and that it diminishes in quantity in consequence of protracted functional activity, we can hardly doubt that the chromatic part plays a very important role in the functional metabolism of the nervous element, and that therefore its alterations are a direct index of nutritive alteration. In other words, they are not exactly proportional to the functional disturbance; within certain limits of structural alteration function can remain intact, and will not exhibit disturbance with certainty except in cases of grave alteration, when the nutritive alteration is also grave. On the other hand, function will be entirely suppressed when the structural dispositions of the achromatic part, which seem more strictly related to the nervous conduction, are altered, or when they are suddenly affected by energetic chemical action, and Ford Robertson considers it also very probable, that purely local degenerative changes in the branches of the dendrites and in the collaterals of the axis-cylinder processes are of considerable importance in nerve cell pathology." And why not? For as I have told you in a previous lecture, no change can take place in structure without that change being correspondingly felt in function even though it may be so slight,

like the ripple of a pebble dropped into the ocean at night time, as not to be revealed to our vision. The chromatic part of the cell may be likened in its relation to the achromatic portion of the neurone, to the porch of a house. The house does not greatly suffer if the porch gets a coat of paint.

The neurones and all the nerve elements of a nerve center, while definitely effecting certain nerve centers so as to attract one's special attention there and give the symptom grouping especial designation of a particular nervous disease, may involve other centers—certain systemic diseases of the spinal cord, for instance, implicating the medulla oblongata and other important centers without its being the chief location of the disease. Take for illustration, locomotor ataxia, called also tabes dorsalis or posterior spinal sclerosis, the latter to designate its special pathological seat in the posterior root zones of the spinal cord. Its characteristic lancinating pains which show sensory disturbances originating in the posterior column and the later trophic changes in the joints from trophic center invasion of the spinal cord, are not all of the symptoms, though they prominently engage our attention. In this disease we have also the implication of the cilio-spinal center, high up in the cervical segments of the cord, giving the Argyll-Robertson pupil, and we have the involvement of the medulla in the laryngeal and pharyngeal crises and even the implication of the fourth ventricle of the brain as shown in the vagus disturbance which comes on later in the disease, contributing to cause the gastric crises, as it is called, of locomotor ataxia.

Myelitis or inflammation of the cord may also involve the medulla. So also may progressive muscular atrophy, amyotrophic lateral sclerosis, multiple or disseminated sclerosis and gliosis, of which you are yet to learn much. These diseases may attack this vital nerve center in their onward and upward progress.

Reflex functional nervous disease is also of the nature of extra-neural or adneurial disease, as when an intestinal irritation excites the so-called convulsive or spasm centers

of the medulla, as Nothnagle designated them, since controverted by Oppenheim and others. This is only the morbid touching of vasomotor centers whose irritation from eccentric or peripheral disturbance impresses the blood supply of the arterioles or nourishing blood vessels of the psychomotor or other areas of the brain and medulla, throwing the brain into convulsive states* causes fainting, nausea, etc. the nausea itself being a reflex impression back to the stomach through the vagus center impression, as the head may be affected from the stomach, the condition causing nausea by sending its impressions up through the vagi or paralyzing the vaso-motor centers and making the brain hyperæmic as I have seen it from an intestinal tape worm. Disturbances of the brain from visual defects are of this nature and from sudden peripheral injuries such as cause fainting, nausea, etc., by its impression up through the pneumogastric.

Extra-neural states affecting the nervous system in one part may also be the result of nerve center disorder in another as when the heat centers are so deranged that the normal balance between heat production and heat distribution is not maintained and hypothermia or hyperthermia and their consequences follow.

A good deal of see-saw reflex impression both eccentric and centric takes place throughout the nervous system by means of its wonderful central and peripheral connections, as you are soon to discover, as we proceed in our elucidations of neurology. The cerebro-spinal and sympathetic neural chain is a chain of many marvelous links and of wondrous mechanism as you will learn before you become finished neurologists. When we contemplate its "vast chain of being," "as we see it in the cerebro-spinal axis and its allied sympathetic and other parts of the peripheral nervous system, we are prompted, from a higher possession of neural knowledge than the psalmist to exclaim, "how wonderfully wrought."

*"Bechterew, who confirmed Nothnagle's observations, showed that these spasms appearing in a lesion of a definite pontine area (vasomotor centers?) are derived from the cerebrum."—Mayer's Oppenheim, 1900, p. 626.

A QUESTION OF FIGURES.*

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TALBOT,⁴ though in thorough accord with Regis as regards the general conclusions, differs in two important respects; the difference being expressed directly in one case, and to be elicited as regards the other through a careful study of his data. The downright statement of two disagreements would indeed appear a weakening one if made at so early a phase in the development of a proposition. I see however no reason why others should allow Dr. Talbot to hide the light illuminating Regis' errors "under a bushel."

In the first case Talbot, as a faithful student of history, recognizes the danger, overlooked by Regis, of conflict with historical data and consequent exposure in making the statement that singleness of secret and act are almost universal features of regicide. But as the admission that the contrary is often the case conflicts with the canons of psychiatry which declare combination of the insane a very unusual thing, Talbot is necessarily constrained to append a codicil to the effect that, after all, such combination is far more common than is supposed. Of this more hereinafter, in another communication.

The second point in which he differs from Regis³ is in regard to the statement of the latter.

"He (*i. e.*, the regicide) is generally a young man, sel-

*Continued from April, 1902.

In the April number the following corrections are to be noted: Page 189—9 lines from bottom Henry II should be Henry III; page 194—third line of last paragraph financial should be finical, and in same paragraph ten lines from bottom St. Monetshould should appear St. Meheould; also seventh line from bottom Nelasquez should be Velasquez.

dom being over thirty years of age, as found in the cases of Ravaillac, Louvel and Guiteau, assassins of Henry IV, of the Duke of Berry and of President Garfield, respectively. As a rule the age of these subjects may be said to range between twenty and thirty years; sometimes they are hardly eighteen years old, as in the case of Jean Chatel (Henry IV), Fred. Staps, la Sahla (Napoleon I), Otero (Alphonse XII) and Casario (Carnot)."

Talbot, as I have stated, does not explicitly formulate his contradiction, but furnishes dates from which his readers may draw their own inference. As appears in the above quotation, Ravaillac, Louvel and Guiteau are the chief exceptions to the alleged rule according to Regis, forgetting his own cases of Fieschi and Orsini. Accordingly Talbot corrects the inaccuracy; for, furnishing the dates of the birth and death, he gives Fieschi the forty-six years, Ankarström the thirty-two, Paris the thirty-nine, Verger the thirty-one and Nobiling the thirty years to which they are entitled. We may add Orsini's thirty-eight, Tschech's fifty-five and might furnish names of even older assassins.

Regarding the unusual method of deducing cranial configurations from wood-cuts, and other copies at second or even third hand of assassin portraits, I have elsewhere² had occasion to discuss the conclusions of Talbot, which except as to the "solitaire" matter and age question are identical with those of Regis. The legitimacy of such deductions may become clear to readers who have not the original article within reach, if they will imagine some anthropologist discovering an old campaign banner and thence arguing out the Kephalonoid degeneracy of Harrison, the discrepant upper and lower jaws of Cleveland, the dental development of the present Chief Magistrate, etc. In addition, let them imagine such investigator's material supplemented by a file of old newspapers, with an aspiring savage's "heel-drawings" alleged to be counterparts of eminent citizens who suffered through narrow and arbitrary interpretations of an antiquated jurisprudence. Such a gallery similarly interpreted would furnish original discoveries to Twenty-first Century scientists, which would undoubtedly appear revelations

to those of the Twentieth; as no doubt the exhibits of combined Art and Science made in the Regis-Talbot galleries would have startled our ancestors of the Sixteenth and Seventeenth into that pathological rage so graphically indicated as particularly convincing proofs of the insanity of their celebrated cotemporaries, Clement and Ravaillac.

But for inherent evidence of Talbot's deducing cranial anomalies from the figured face of the living, I had congratulated him on having come into possession of crania hitherto not known as extant in any accessible collection, such as Regnault's and Ravaillacs. One specimen, however still remains to his credit, that of Galeote. It is to be hoped that this interesting skull of one who more nearly than any other of those figured by Talbot approaches the beau-ideal of the, by him, vindicated Marat,* will form the subject of a more extensive communication. As it is, but for the laconic mention of a concealed part of the skull—the palate—I would have remained unaware that the specimen had reached this country and so fortunately become the property of an American investigator.

The evidence referred to is derived from the fact that had Dr. Talbot possessed the other crania, so careful a craniologist would not have failed to remark on the palate of those as well, nor omitted every mention of Wormian bones, persistent sutures, middle occipital fossettes—particularly in the case of so large a proportion of "kephalonoids." Regarding this latter, a word to the unsophisticated may not be amiss. Kephalonic is one of those terms whose "bark is worse than the bite." It sounds alarmingly pathological, but is a condition not only compatible with normality, but a prerogative of higher development. One of the first authentic instances of a kephalonic historical personage was Pericles, who to conceal an unusually large head—possibly in anticipating evasion of some such recording fate as has overtaken Ankarström, and others stigmatized as degenerates—induced Phidias to take his marble

*He did not fly after the deed immediately, but for days remained in a place where he was really safest, Paris, trusting to get a chance at Egalite, the secret subsidizer of Marat and Barere.

portrait with a capacious and concealing helmet. This shows under what disadvantages the modern struggler for post mortem fame labors in contrast with the ancient. The latter could brave the anthropometrical historian of the future through most treacherous but unfortunately not equally transparent devices.

We are told that the guardsman Paris—whose intellectual attainments seem to have been not at all contemptible, and who was undoubtedly a man of elevated sentiment—of magnanimity in the true sense of the word—had a “broad low forehead, with eyes small and close set together.” “Eyes close set together” and a “broad low forehead” united in one person! This were indeed a sad disharmony; and then, too, both jaws were “arrested in development”—which must mean a weak chin; remember that Paris was a man of decision, self-sacrificing courage, irrevocable determination and loyalty!

As union of such life-history with such skull features—aside from the inherent craniological discrepancy—would utterly revolutionize traditional conceptions, I assumed that Dr. Talbot had made a careful verification in the light of an actual and—unlike Corday’s—authentic cranium, before venturing on such startling revelations. I find, however, that the picture-book was also and alone consulted in this case, Photographs retouched and half-toned, etc., as in one case, were sufficiently precarious guides; wood-cuts made after oil-paintings still more so; but in this instance I find so bold a procedure resorted to on so fragile a foundation that even the original’s guardsman-temerity would appear timorousness by its side. The picture is a reproduction of a sketch (from memory) of Paris, which the reader will find, I believe,* in the Atlas accompanying Lavater’s works. Such as it is, utterly insufficient as a basis for speculative Craniology, I find that a Pelion of misconception has been piled on an Ossa of first place fallacies.

The lowness of the “broad forehead” is inferred from a head covered by a slouch hat, in whose interior were

*If not, in one of Chłodowiecky’s or some contemporary’s copper engravings. I am certain at all events, that it is not from any portrait.

room for a "three-story frontal." The weak jaws aside from perspective and fore-shortening, (the head being inclined forward) are so artistically, being encroached on for the accentuation of the expression of fierceness, by the lips being firmly retracted over the teeth. The sufficiently large eyes are correctly represented in harmony with the general emotional expression and hence covered some by the lower lid.

But one is surprised that the strange unnatural bulb *over* the left eye is not mentioned. Had Dr. Talbot misgivings as to the faithfulness to nature here? If so, they were justified and his theory—wrongly erected as it were under any and all conditions—needed not to have been erected at all, thus to collapse as a self-deluding misconstruction.

In the foregoing I have taken occasion to refer to the vindication of Marat as a matter collateral to Talbot's main subject. This vindication involves so novel a proposition that it may not pass without notice.

To what the tendency to exculpate notorious criminals would lead us, it would have been unsafe to have prophesied a few years ago. Yet it seemed at least as if there was one personage; the concentrated essence of villainy, lacking solely the sinister but aesthetically less revolting feature of downright diabolism; whom even copropsychiatry would have disdained to apologize for. Yet Marat has found not alone a champion, but that champion has found two followers; among them the author of "Degeneracy and Political Assassination." This time it is diabetes that is libelled and, mind you, libelled as responsible for Marat! Must not every physician who has not in the craze for new departures forgotten all sympathy for the afflicted feel the injustice done a large, ordinarily well behaved and certainly harmless class of unfortunates, by such an unmerited and insulting slur? What shall we say of the clinical insight demonstrated in permitting a claim of diabetes of high grade continuing a lifetime? For, as it is asserted the cause of Marat's despicable character, and he never had any other, he must have been a diabetic practically for that period!

There are, unfortunately for the theory a few facts in medicine which may be regarded as established, and while exceptions occur in many things, and impotence is not an absolutely essential feature of diabetes, yet a diabetic disorder of high degree and long duration is not ordinarily regarded compatible with a Maratian record in relations feminine, which, low and filthy as would appear in any other man, yet in its relieving contrast to the Stygian tinge of his entirety actually assumes an appearance of a virtue relative, being almost the only thing human in this creature.*

The philanthropical, or whatever other feeling—not always as sound as meritorious—to which is possible the defense of a Marat, will of course find it comparatively easy to vindicate all other known and imaginable villains, for in the case of no other would the task of exculpation approach so near the Herculean. However, philanthropy ceases to be practical when, in an attention absorbed by repulsive individual excrescences, it forgets the general body. The zöologist equally finds highly interesting such aberrant forms of animals as the *Mephitis*, *Putorious*, *Crotalus* and *Heloderma*; but he does not fondly present the former as typical of mammals, nor the latter as typical of the saurop-sida. Nor does he in zöological gardens make the display of the *Mephitis* over-prominent and accessible, lest visitors befouled by its exuviae become blinded to the beauties of animal life in the general exhibit. The criminalists of the “*Uomo Delinquente*” and philanthropical sects have however gone to an extreme not unlike that shown by the patron of Uriah Heep. Readers may recall this “jewel” of criminality which “jail-set” reflected so dazzling a light of persecuted saintliness, as to throw the visitors of the prison into a gloom making them appear relatively to such excellence, real criminals themselves. Dickëns, in the Mr. Creakle of this episode, happily exemplifies a situation not unlike that avoided by the hypothetical zöologist just mentioned.

Before having become acquainted with the colossal

*I recall a similar representation having been made by Macaulay in the case of Barére.

strides made in the last three decades in the field represented by the "*Archivio Italiano di Antropologia y Scienze Penali.*" I would not have, without apprehending misconstruction ventured to suggest the following as a possible outcome: As is laid down in its authoritative publications, tattoo marks are evidences of degeneracy, and quite characteristic ones. It naturally follows that they must be of the same significance whatever period of life they are developed with—and as they occur at all such periods, with the probable exception of the intrauterine—ought to assign the offender showing these grave and graven evidences to his proper place in the teratological domain, whether he be young or old, and above all—in repudiation of all narrow-minded cavil—whether the abnormality be developed before or after his crime. This is in consonance with an established precedent of incontrovertible relevancy. The Common Law of England makes lunacy, occurring in a criminal after sentence of death has been passed upon him, an absolute bar to its execution. Although the formal process is different, this is practically the same result to a prisoner as declaring him not guilty because of insanity at and before the time of the crime. Since then, insanity or any ground for irresponsibility is an equally effective bar to punishment whether "before" or "after," the same which applies to the whole, must apply to the subdivision of "Degeneracy" and necessarily to the proofs of the latter—tattoo marks among them.

There is a collateral conclusion growing out of the subject, of special importance in such cases as Czolgosz's and which future investigators, it is hoped may not, like those who are said to have ruined that case in a sulphuric acid grave, overlook. Pathological and teratological signs are of equal value whether found antemortem or postmortem. The same applies to tattoo marks.* No better advice can be given to those who are or want to be in a situation to avail themselves of all modern improvements in excul-

*The relevancy of this subject to the present lies in the rendering unnecessary any disclaimer on my part of imputing to Dr. Talbot errors in principle, such as would be a suggestion of developing stigmata in Czolgosz intimated elsewhere. Under this modern view, there would be nothing out of the way in it.

pating medico-legal science, than to tattoo early and tattoo often, and if not tattooed already, better tattoo late than never, lest it become necessary to resort to it as a mere matter of *obituary* record. As newspaper portraits are made the substratum of degeneracy proofs by Talbot, let such be admitted as stigmata proofs in criminal jurisprudence likewise. Possibly when the day of this realization shall have come, offenders will be tried and sentenced as Dr. Talbot's degenerates are diagnosed—by proxy.

The following at first seems startling. Fieschi's "facial asymmetry and other arrests of development" are to Talbot "peculiarly impressive" in their association with the fact that his crime was "not abnormal"; but on the contrary the direct outcome "of his environment" and from "his training in Corsica" "perfectly (*sic*) justifiable." At first I supposed that Dr. Talbot had shrewdly involved in clauses the intended sequitur "all Corsicans being all assassins, and the Corsican skulls having the true assassin type, all Corsican skulls are unsymmetrical and checked in development"—not unlike the shape of their native isle and the expansion of its sea-girt area. Aside however from the inconsistency with the boldness elsewhere shown, it were unjust to Dr. Talbot to assume fear of a pan-Corsican vendetta, as having induced him to thus cloak a conclusion offensive to the notorious sensitiveness of that people. Nor can I satisfy myself that his sudden change of front, had been intended to bring out in the sharpest contrast an ironical reverse of the views expressed at the outset. Such a manoeuvre would fail because of its very adroitness in concealing that purpose too well. Since the quotation is from the last paragraph of an article of which twenty-three pages are taken up with proving the mental abnormality of criminals, in many of whom scarcely any other evidence than precisely such skull shape is furnished, it cannot be supposed that Dr. Talbot was all the time only preparing a hilarious surprise for us by abruptly announcing such fundamental contradictions in concluding.

I have even tried to assume the clause misprinted, but it seems absurd to account for it on this ground as the

statement is inherently thrice reiterative. Either the paragraph means nothing or Dr. Talbot makes the rest of his contribution—excepting such subsidiary portions as contradict the views of Regis—mean nothing; in the latter case the paragraph is at the wrong end of his article!

As an author must, however, be taken as he himself represents his position, we assume that a paragraph, located where he must have matured his views in concluding the discussion, expresses his more deliberate judgment. Fieschi's crime, then was "natural," "justifiable," nay, it is not only directly stated that it was "not abnormal" but this fact strikes Dr. Talbot as "peculiarly impressive." It is now in order for Dr. Talbot to show in what respect the crime of Gerard, not to mention a dozen others, was abnormal in distinction from Fieschi's. Talbot it is, who tells us that ultramontanes of no less than five nations were in Gerard's conspiracy, that it was favored by the Jesuitical faction, approved by high ecclesiastics and that the Spanish Monarchists "almost canonized him." Will Dr. Talbot tell us whether these were also insane? Will he maintain that Gerard was out of harmony with his "environment" and "training" any more than Fieschi?

Such *reductio ad absurdum* were the fate of the reasoning in three out of four cases advanced by either author mentioned. In a "communication to the *Philadelphia Medical Journal*, April 26, 1902," "Reply to the Article by Dr. E. C. Spitzka, entitled *Regenticides not Abnormal as a Class*," Dr. Regis substantially places himself in the same line with Dr. Talbot, for he is "glad to find" himself "in the good company of Drs. Talbot, Channing, Chistison," etc., in regard to his opinion anent "Regenticides and Czolgosz." Even where like criticism is not applicable, an illogical position is illustrated by the two writers falling out amongst themselves. With recognition of this fact, the further discussion of their extreme views becomes unnecessary. A few words anent the collateral deductions made by Talbot, rather in the way of suggestion and emendation than of criticism will conclude what I have to offer on this subject.

Where the familiarity with historical questions is so

instructively displayed as in his article, blemishes which were unnoticeable with ordinary writers become only more disconcerting. For example, it does not strike one as calculated to result in "breaking off negotiations between Parnell and Gladstone" by committing the Phoenix Park murder inasmuch as the frame of mind of the two was as similar as could be anent that subject, for Gladstone's comparison of the "Clerkenwell Horror" to a "Chapel bell of a Sunday" was never forgotten nor forgiven him. If a rupture did occur, it certainly could not have been by counting on the terrorist outrages as the precarious spot.

There appears throughout the interesting contribution of Talbot, probably because of a laudable tendency to find "good in everything," a tone vindictory of the historical influence wielded by assassins. All of his instances, if proofs of any such thing, neutralize each other, with a single exception. Prendergast's assassination is asserted to have accomplished the philanthropic object of removing a danger to life and limb by surface transportation.

Having vainly sought in the pages of history for a clear exception to a rule which dooms assassins to accomplish the very opposite of their intention, and which I have undertaken to illustrate by tabulated cases. I made inquiries of leading Chicago citizens as to this claim. Some surprise was shown at my crediting a matter they alleged absurd even as a supposition. I regard the authority on whose strength I venture to say that there seems to be no material ground for regarding Prendergast's case exceptional, as of the very highest character.*

The ambiguity of the following calls for elucidation: "mock deference renders this class of beings the unflinching slaves of party leaders." This might, as the paragraph generally deals with the half-witted, be regarded as anticipatory of an explanation of assassination on the ground of Double Consciousness; the insane aggressor being mock

*As active in municipal reform, and as one fearlessly instrumental in bringing the assassins of the Irish patriot Cronin to justice, (all events occurring near the time of Prendergast's assassination of Mayor Harrison) my chief informant is enabled to speak with authoritative knowledge as to Chicago's history in this regard.

deference with one-half and subservient with the other half of his wit. The doubt is cleared up by referring to the original (*Journal of Mental Science*, vol. xxxiii, July, 1887, p. 193). As this relieves the author, Dr. Kiernan, of any supposed intention to have been gratuitously witty at Macaulay's expense, an imputation under which the mutilated quotation might leave him, it is mere justice to that misrepresented alienist to reproduce his actual statement, one with which I thoroughly coincide, and which is also in complete agreement with the great Historian. Kiernan says:

"Nor is this danger lessened by the fact that mock deference will render the paranoiac the unflinching slave of party leaders," meaning the homage as rendered by the latter to the former and not *vice versa*.

1 E. C. Spitzka—"Regenticides Not Abnormal as a Class. A Protest Against the Chimera of Degeneracy." *Philadelphia Medical Journal*, February, 1902.

2 E. C. Spitzka—Review in the *Medical Critic*, January, 1902.

3 E. Regis—(Bordeaux) "The Regicides," the *Journal of Mental Pathology*, vol. I, No. 3.

4 Eugene S. Talbot, M.D., D.D. S.—"Degeneracy and Political Assassination," Reprinted from *Medicine*, December, 1901.

Other papers on related questions by the writer:

5. "The Czolgosz Case." *Philadelphia Medical Journal*, February 8, 1902.

6. "The Mental State of Czolgosz and of Assassins Generally." *Medical Critic*, New York, November, 1901.

7. "Regicides. Are They All Insane?" *Journal of Mental Pathology*, (current).

8. "Rejoinder to Dr. Regis' Remonstrance." *Philadelphia Medical Journal*, April 26, 1902.

OUTLINES OF PSYCHIATRY IN CLINICAL LECTURES.*

By DR. C. WERNICKE,

Professor in Breslau.†

Definition of the acute psychoses with respect to the chronic—Presentation of a case of acute psychosis almost recovered—Conditions and color of the explanatory ideas—A few new sources for the formation of delusions; from analogy, defective attention, pathological formation of associations.

LECTURE NINETEEN.

Lesson from hallucinations. Hallucinations of the different senses. Combined and visionary hallucinations. History. Theory of hallucinations.

The lesson from false sensations, which in our previous considerations could only be touched upon, forms the most important topic of a general pathology of mental diseases and must therefore be familiar to us in its fundamental traits, ere we can go on studying examples of the various types of the acute psychoses. Since the time of Esquirol the false sensations have been divided into the two large groups of hallucinations and illusions. The hallucinations are perceptions which occur in consequence of internal stimuli without excitation of the sense concerned by an external object, the illusions are false perceptions, misconceptions of objects of perception actually present. According to our scheme hallucinations belong to the group of

*Continued from ALIENIST AND NEUROLOGIST, April, 1902.

†English translated by W. Alfred McCorn.

psychosensory hyperæsthesias,* *i. e.*, they represent a pseudoidentification by pathological stimulus, the illusions are to be accounted to the psychosensory paræsthesias,*i.e.*, they signify a falsification of secondary identification.

As to how far primary identification is concerned we will have to ascertain in speaking of the theory of false sensations. In the domain of the sense of hearing we have at command the cardinal data of hallucinations and from these we will proceed, as they possess by far the greatest clinical dignity. I again confine myself to those points, which are of fundamental significance in the matter of clinical experience.

Hallucinations of hearing occur in two different forms, namely either as voices or *phonemes*†, or perceptions of hearing of different kind. The latter, also called *akoasmas*, may be of the greatest variety, *e. g.*, the patients hear crackling, crushing, clicking, stamping, knocking, thundering, drumming, shooting or chirping, hissing, boiling, dripping, howling, bellowing, neighing, roaring. These noises occur especially in very acute disease conditions, quite often with signs of a severe affection of the general condition. In the dry tongue and mouth an evidence will often be found, that the Eustachian tube and internal ear are often affected sympathetically, so that the origin of false sensations from subjective noises of peripheral origin in the ear cannot be excluded; especially is this true of the simple elementary noises. They would have to be placed in the group of hallucinations from intense peripheral irritation singled out by Kahlbaum, among the *phenacisms*, and hence among the disorders of primary identification. This sort of *akoasmas* are evidently very near to illusions, in that it does not prevent the peripheral mode of origin, that they are fantastically explained and utilized by the patients. This mode of origin tends to the experiences which every normal person has of occasional subjective noises in the ears from internal peripheral irritation. Pure tones may originate in this way. As *akoasmas*, which cannot be thus explained,

*See ALIENIST AND NEUROLOGIST, Vol. XX, p. 154.

†See ALIENIST AND NEUROLOGIST, Vol. XXI, p. 267.

but must have another mode of origin, we will have to regard the hearing of distinct melodies, an orchestral selection or other acoustic impressions of complex nature, like groaning, whining, children's cries.

The voices or phonemes are also two different forms, they are either expressly called voices, when they are felt by the patient to be something special, different from ordinary experience, or are ascribed to persons actually present or in the vicinity. The first case is a pure example, that patients create a special term for the designation of a pathological symptom. If such patients are asked if they hear voices they usually answer affirmatively without hesitation and with the appearance of fully understanding the question. Others make use of voices entirely of themselves and without external suggestion of the expression. This indicates that a very definite accent seems to adhere to the hallucinations of hearing in words. Usually the patients can definitely state whether these voices are of acquaintances or strangers, in the first instances they may give the names and differentiate voices of men, women and children. Also the designation angels' voices, God's voice is sometimes due to an unusual, strange timbre. The voices at one time seem far away, again near by, they often come from the immediate vicinity, so that it seems to the patient as if whispered, spoken or shouted in the ear. The direction from which the voices seem to come can usually be exactly stated and in this respect the patients often develop a very marked faculty of localization, manifest only during the disease. Not only the direction, but also the exact place and distance from which the voices seem to come, are stated. It quite often occurs that the voices seem to change their location independently. The patient is thus led to personify the voices, in that he complains they fly or hover about him, he looks for them under the pillow and hunts them like an annoying insect. At other times it is not the abnormally keen localization, but the very correct perception that the voices accompany the patient, *e. g.*, on a change of residence or on a walk, which leads him to conclude that the voices can change location also.

In case of unilateral hallucinations, which are not rare, the voices change in direction with the position of the patient, a condition which under certain circumstances may lead to insight into the symptom's subjective nature. In such cases it is usually possible to demonstrate either marked deafness or blunted keenness of hearing in one ear. In these cases the hallucination is heard at one time in the sound ear, again in the one diseased. Perhaps conformity to law in this respect will be shown, when the ear trouble is definitely located by a thorough examination. Our patient K., who is hard of hearing from an old catarrh of the right middle ear, tells of a voice which has been so loud and close to the ear, that it had begun to bleed and in fact a small hemorrhage was once found in the external meatus.

The voices, which are construed as emanating from persons present and projected to them, owe this attribute to the pathologically fine localization of the phonemes. This sort of voices, by which the patients are led to a false conception of the persons about, deserve the designation of *disorientating phonemes*. Practically they are of special importance, for they often turn the patient's anger, rage and hatred to certain persons and may be the cause of violence. An assault on the supervisor by the patient K may be explained in this way. The disorientating phonemes are then the worst form of manifestation of voices, and in fact it is quite often observed that the first form of voices pass into the second, while the patient's whole condition is simultaneously aggravated. The same observation may be made in inverse order.

Hallucinations forcibly monopolize the patient's attention, even when the false perception is not understood. So for example indefinite noises precede the distinct phonemes, and they generally disappear by the patient no longer hearing them distinctly, but only in whispers. In both cases the patients very definitely state that they must listen to the noise, although they do not understand its meaning. This is so in the patient K last presented. Like many other patients he regards this compulsion as a physical annoyance and a sort of abuse.

A second attribute of hallucinations is their incorrigibility. It has long been known, that the best reasons and intactness of all the other senses do not suffice to convince patients of the subjective character of hallucinations. The chief argument on which patients rely is quite often heard actually expressed: "I have seen it with my own eyes or heard it with my own ears." And in fact the evidence of the senses is generally accepted unconditionally, when the whole attention is engrossed with the sense impression. But this is always the case in hallucinations, as we have just heard and also from our patients. The fact of the narrowness of consciousness, which was mentioned in my eighth lecture, prevents any correction at the moment of the hallucination, only after the disappearance of the hallucination could correction become effectual, then always when too late. The most intellectual patients, having to choose whether they will trust the evidences of their senses or not, prefer strange explanatory efforts than to admit the subjective character of the hallucination. The phonemes are not usually continuous, but cease at times when from proper advice a doubt as to the objectiveness of the voices may appear. They sometimes occur only paroxysmally. At the height of such attacks the attending symptom of anxiety very regularly occurs, but also quite often during its whole duration. Numerous constant hallucinations without any intervals are observed only in the severest per-acute cases of mental disease, when disorientation is simultaneously present. Nevertheless it can usually be observed that a certain diversion of the patient by medical consolation, an examination, etc., is possible and the hallucinations at this time abate or disappear entirely. Solitude, silence and the exclusion of active sensory impressions generally favor the occurrence of hallucinations. But cases are now and then observed in which these conditions cause the hallucinations to disappear, while they are excited by external sensory stimuli (functional hallucinations, Kahlbaum).

By *reflex hallucinations* Kahlbaum understands those which are produced by an actual sensation or another false perception, either in the same or another sense. Thus

Kahlbaum's patient heard the derisive name "Uncle August" every time he first saw strangers. A patient of mine in the premonitory stage of delirium tremens with intense anxiety heard the words, "scamp" and "hang yourself" in the ticking of the clock and the bubbling of a fountain. It is well to regard it a reflex hallucination, when a patient, who for a long time has been very abstracted, later gives as its reason that I had ordinarily insulted him at the conclusion of a conversation. It is perhaps due to reflex hallucinations that a few patients hear the contradictory commands—eat and do not eat, every time they see food. In their uncertainty only the decisive order of the physician will determine their action and get them to eat.

After hallucinations of hearing, those of *taste* and *smell* are to be considered, owing to their great clinical importance. They occur most frequently in the form that the patients believe they taste and smell poison, when apparently the word poison is employed for the designation of the most diverse substances unknown to the patient. More definite names are not lacking; chloroform, phosphorous, sulphurous acid gas are smelled, things causing disgust, like dog and human flesh, manure, feces or urine are tasted. Hallucinations of smell of themselves alone are often of very long duration and continuous, especially the odor of putrefaction or of other disgusting kind, which is ascribed to pathological processes in their own body. Hallucinations of taste are usually the cause of refusal of food. They are often of course not to be separated from the tactile hallucinations of the tongue, which generally refer to foreign substances in the food. The examples cited show that the content of hallucinations is usually disagreeable, menacing. Accordingly the great importance of the symptom consists in the patients wholly or partially refusing food in consequence of their perceptions. Hallucinations of taste and smell are the most important and frequent causes of refusal of food. An especially bad prognostic significance is generally to be ascribed to hallucinations of taste and smell. Still this applies only to chronic mental diseases. In the acute and particularly in the peracute

forms hallucinations of taste and smell permit no special conclusion with respect to the prognosis.

Paretics in the later stages are a well known exception to the general rule, that the content of hallucinations is largely unpleasant. These patients generally revel in perfumes and they are often seen chewing, tasting and smacking their lips for hours and days, even with all the signs of pleasure, often without refusal of food having preceded. Also in certain ecstatic states of the hysterical insane and after many acute intoxications such reveling in pleasing hallucinations of this sort occurs.

In all cases of severe acute mental disease a dryness of the mouth and nose, which must afford the most favorable basis for the origin of illusions, generally appears in consequence of the intense effect and thus induced motor restlessness. Evidently these false sensations of taste and smell are still less to be separated and differentiated from real hallucinations than in the other senses.

Hallucinations of sight have in general the peculiarity that they do not of themselves have the stamp of tangible reality, but appear to be superficial pictures without depth. They are very often designated pictures by the patients, at other times apparitions, shadows or ghosts, an expression which points to definite explanatory ideas. Also the common expression, "some trick is played on me," permits the conclusion that hallucinations of sight are devoid of the semblance of reality. An exception to this most frequent condition occurs in those cases, where the sensorium is clouded, stupor, a dazed condition or an ecstatic state exists, as well as in somnolency. So it quite often happens that the same patients, who see "pictures" only in the day time, tell of nocturnal visions of physical tangibility. States of intense affect render visions of this sort possible. A dreamy state of consciousness may serve as the basis of the visions in alcoholic delirium, but in part they have also the stamp of reality, as other acute intoxications afford a favorable basis for them. Later we will have to return to the content of visions. We will find them, like the phonemes, to be definitely dependent on the patient's affects.

Patients of intelligence and judgment, who can express themselves, claim their visions exercise an influence over attention. Thus *e. g.* a patient perceived the form of a man at a certain place in the room at night. She must gaze at him, could not take her eyes off him and watched him as he slowly approached the bed and bent over her, it all being accompanied by a feeling of anxiety gradually intensified to an intolerable degree. In delirious patients the visions are often accompanied by this feeling of anxiety, when, if not rare, the delirium is of an anxious character. The content of the visions then corresponds: the devil comes to get them, hell opens, an abyss yawns at their feet, the walls are tottering, the roof threatens to fall, etc. In melancholic conditions we meet with isolated hallucinations, which are a true imitation of the prevalent feeling of misery; deceased relatives, corpses, a coffin, a whole funeral procession.

Visions are also accurately projected to definite places in space, so far as they have been particularly described. You will remember the patient with numerous and most diversified visions, who definitely stated the picture had been about one and one-half feet away from him and on the whole no larger than a plate; nevertheless he had seen and recognized an entire landscape, the shore of a river and the form of a comrade bathing. When patients speak of shadows we sometimes meet with the statement that their visions are transparent, as one patient described the vision of a deceased relative.

Hallucinations of sight are more rare by far than the phonemes, and their clinical importance can in no way be compared with the latter. As they do not usually possess the complete stamp of reality they do not have the disorientating or confusing effect of the phonemes. Nevertheless they are very often the source of explanatory ideas, which vary in color according to the personality. As you remember our engineer K hesitated between the assumption of witchcraft and the other that the spirits heard by him would intentionally make him the witness of different events of the visions he described.

Hallucinations of the tactile sense, perhaps more correctly of the cutaneous sense, are the most common in delirium tremens. The patients feel animals creeping over the body, either vermin or reptiles, like snakes, lizards, toads, etc., and they constantly try to brush them off. Such hallucinations also occur alone in other acute mental diseases. Still more often they are of a more definite form, consisting of the feeling that the patient's fancy they are being covered with a powder or vapors blown on them, of course of a harmful nature. This hallucination is very common in chronic patients who usually belong in the category of hypochondriacal delusions of persecution. An abnormal feeling of heat of the skin may be the cause of delirious and excited patients trying to remove their clothing. The prickling sensation, so accurately described by many insane and interpreted that they are being magnetized, further the pathological feelings of heat and cold are also to be included among the hallucinations of the cutaneous sense, while pricks, blows, cuffs and other pains represent hallucinations of general sensation.

Hallucinations are often not confined to one sense, but several are affected. The combination of hallucinations of taste and smell is the most frequent. The natural result of this combination is, that the pathological perception in one sense is regarded as verification of the hallucinations in the other senses. A certain uniformity of the hallucination is thus presumed, so that sensations belonging to two different senses combine in the same way as actually occurs in the perception of definite concrete things. But this process seems to be the rule in *combined* hallucinations. Simple combinations, like those of taste and smell just described, are especially frequent in the senses which are noted for active organic sensations, so besides those mentioned, those of contact and the so-called hallucinations of general sensation, which we will later consider fully. Those combinations are conspicuous in their manifestation, which occur in the so-called higher senses and are accordingly characterized by the prevalence of the sentient content. The most perfect deceptions as to reality arise by the

co-operation of hallucinations of hearing, sight and contact. The patient believes he is transferred to a definite place and surroundings, *e. g.*, home in the midst of his family or to a cemetery during a funeral. He then sees persons act, hears them speak, and various noises like the rumble of carriages, dirges, etc., in short, the whole affair is reproduced somewhat as on the stage, where the patient may even take part. When the hallucination is past, the patient sometimes states he has come to himself, or it had seemed to him as though he had been in those surroundings, statements which permit the conclusion of a certain insight into the pathological nature of the manifestation. The combined false sensations of the delirious patient are similar, who fancies he sits on the box as coachman, sees the horses and street before him, calls to others to get out of the way, hears the horses neigh and the people shout, and is still really in bed in the hospital. With the exception of delirium tremens, these combined hallucinations are rare in the insane, whereas they are peculiar to and characteristic of febrile states in severe somatic diseases like typhoid, certain brain diseases, meningitis and certain acute states of inanition. Their preliminary condition in all these cases seems to be a more or less pronounced degree of confusion and blunting of the sensorium. As they also in their mode of manifestation have the greatest similarity to the false sensations in dreams, we may properly call them *dream-like* hallucinations. Epileptics and hysterio-epileptics may be subject to such dream-like hallucinations for hours and days, they occasionally appear in states of pathological intoxication, as after administration of ether, chloroform, belladonna and similar substances. In persons of markedly nervous constitution they may occur alone, without being followed by a mental disease.

As Kahlbaum states, it quite often happens that these dream-like hallucinations escape medical observation and may only be subsequently disclosed by the patient's statements. It is then improper or only in the cases just described to conclude the actual presence of hallucinations, it often being rather a matter of the familiar phenomena

of additive false memories. Another combination of hallucinations, which does not belong to the dream-like, deserve mention owing to their frequency. They consist in hallucinations of other senses or in that of hearing being interpreted, confirmed and eventually put into words by "voices." So *e. g.* nothing is more common than that patients with hallucinations of taste and smell sometimes hallucinate the words poison, human flesh, etc., or that patients with abnormal physical sensations give to the hallucinations of hearing definite terms, technical expressions, which they ever after use.

The comprehension of hallucinations as symptoms of the acute psychoses is of so great importance that I cannot help prefacing our theoretical discussion by a few historical remarks. The oldest theory of hallucinations, which has prevailed for a long time, was evolved under the influence of the great physiologist, Johannes Müller and is derived in the simplest manner from the physiological process of perception. It starts from the fact that normally we are able to accurately differentiate many pictures, (pictures of the imagination) from actual perceptions. But the difference consists physiologically in that an irritation of the sense organ, respectively sensory nerve, always occurs in the perception. Then if one will accept as their explanation, what is not to be avoided from the nature of hallucinations, an excitation of memory pictures (pictures of the imagination), it will then be a hallucination only when a pathological stimulation occurs simultaneously in the periphery, *i. e.*, in the sensory nerve, so that this latter forms the preliminary condition of the hallucination. Owing to this view the theory of hallucinations has been preferably cultivated, so that diseases of the sense organs or sensory nerves, which could have a stimulating effect, have been sought for. But only very exceptionally has it been possible to demonstrate such changes in the sense organs or nerves, and many apparently confirmatory data awaken doubts as to the correctness of this theory. Thus in hallucinations of sight the optic nerves have been found with gray degeneration and transformed into a mass of connective tissue, and also

in cases in which a very long existence of this change was to be proven before the advent of the hallucinations. It is similar in other cases of blindness owing to destruction of both bulbs. It seems extremely artificial to assume in such cases of years of inactivity of the optic nerves, that they could resume their function with the onset of a mental disease, or that irritative phenomena could have originated from the affected area, of which nothing has been previously noticed. The consequence of this difficulty was, that the requisite stimulus from the sensory nerves was located at their central terminal, and according to one, in their so-called nuclei (Schröder v. d. Kolk), according to others in the optic thalamus. Still it was as good as proven anatomically (by Luys), that the optic thalamus is a central station of all sensory nerves. This assumption first advanced by Hagen has the most adherents. Its latest and most active advocate, in only a slightly modified form, is Meynert. His opinion may be expressed somewhat in the following terms: When an insane person has a hallucination and, in spite of his other senses functioning normally, he does not perceive the pathological and subjective nature of his deception, this indicates a certain weakness of the intellect, respectively of the function of the hemispheres. The hemispheres are not only the organ of the intellect, but they have a second cardinal function, which consists in the inhibition and suppression of automatic and reflex irritative processes in the subcortical ganglia. A blunting of the function of the hemispheres causes a diminution of this inhibition and will therefore so act on the subcortical ganglia, that irritative processes occurring in them may be increased to the degree of stimuli coming from without. The hallucinations are thus explained by a state of irritable weakness, in which the irritation and weakness are assigned to two different localities. This hypothesis is defective in that it rests on a number of other hypotheses: thus on the assumption of pathological irritation in the subcortical ganglia, for it must be present to be increased to a pathological intensity; further on the assumption that the function of the hemispheres is blunted in patients with hallucin-

nations. We will see later that this assumption is wholly superfluous. But if it should be accepted exactly as expressed in Meynert's line of thought, to consider the fact of the mutual inhibition of the functions of the hemispheres and to see the apportionment of these two opposite conditions within the hemispheres, so that the weakness of function would have to be considered allotted to the other parts of the hemispheres, while the increased function to the central projection fields of the sense concerned. There is no necessity for the further assumption of a state of irritation in the subcortical ganglia.

If I am compelled to take a position adverse to Meynert's hypothesis, I have to guard against a possible misunderstanding; I am far from mistaking that the hypothesis of this talented master finds its real foundation in his special view of the agency of the vascular system in the brain mechanism, and that I have singled out only one link in a chain of hypotheses, whose strength lies in their firm structure. But the purely descriptive tendency of our clinical studies compels us to waive all hypotheses not unconditionally necessary. Besides justice requires the mention of two of Meynert's predecessors in his line of thought. In his work previously mentioned Kahlbaum presumed, on the strength of Schröder v. d. Kolk's anatomical views, the seat of the stimulation in hallucinations of a definite kind to be in the subcortical centres and the primary nuclei of the nerves. And finally we have to mention H. Neumann's purely psychological statement. Neumann explains hallucinations by the suppression of that normal function of the brain, which he designates as criticism. He describes them under the disorders of criticism. That this conception, which is devoid of all attempts at localization, is completely covered by Meynert's hypothesis, that the function of the hemispheres (which is manifested as criticism) is blunted, is readily conceivable. Neumann's method of consideration is at least characterized by great impartiality.

These brief remarks on the history of hallucinations may suffice to show, how in consequences of Johannes

Müller's original assumption, authors have been obliged to go ever farther centrally and to locate the pathological stimulus from the sense organ and sensory nerve in the nerve center and then in the next higher station of the subcortical ganglia. Therefore, a co-operation of the central projection fields is indispensable, for the presumed stimuli from the subcortical ganglia, if simple note should be taken of them, could not possibly have the coordinated character of real perceptions presuming an action of association.

Our position with respect to the question is simply stated by the points of view I have evolved in my introductory lectures.* The difference between the memory picture and the idea is effaced in the hallucination by a pathological process. We have already found this difference to be that the first terminal station of the projection system in the central projection fields of the cortex, which we have called "projection cells," are also stimulated in the act of perception. We have become acquainted with these cells as the embodiment of the organic feeling and constituents of the consciousness of corporality. We will therefore be able to characterize the nature of hallucinations, by saying the pathological stimulus extends beyond the memory pictures to this embodiment of organic feeling, and a memory picture becomes an idea and consequently the hallucination, as soon as it is supplied with the inherent organic sensations—by excitation of these projection cells. It is then an affection of the consciousness of corporality, which constitutes the cardinal trait of hallucinations. The cardinal attributes of hallucinations just evolved become intelligible to us. Thus primarily the force they exercise on attention. Every intense organic sensation exercises this force, as I have shown you in different examples,† and that this force is likewise to be regarded as a protective measure for the aggregate of corporality, Meynert's primary I, you will also remember. It is now comprehensible why the affect of anxiety shows such a close connection, often a direct dependence on the hallucinations. This affect always

*See ALIENIST AND NEUROLOGIST, Vol. XX, p. 155-169, 355-365.

†See ALIENIST AND NEUROLOGIST, Vol. XX, p. 357.

occurs, as you remember, when the corporality, the "primary I," is jeopardized.

The remarkable observations of abnormally sharp localization of the hallucinations are comprehensible. The organic feeling, as constituent of the general feeling of corporality, is always referred to a definite place in the sensory layer of the skin, the retina or the epithelial layer covering the other sense organs. In the retina a very definite projection space is due to this, an attribute which, as we have seen, constitutes vision. It has further been proven that the adaptive movements of the eyes must be accompanied by organic sensations of the retina. We observed such adaptive movements of preformed kind in respect to the organ of hearing in all animals with movable auricles, and the remnants of motility of the ears, which man still possesses, are an evidence that man could once make such adaptive movements. It is reported of savages that their greater keenness of hearing renders them capable of localizing the origin of tones and sounds in surprisingly exact manner. This attribute is wanting in civilized mankind. But we see it occur in cases of illness and, as seems perfectly comprehensible, joined to abnormally intense organic sensations, which in part are felt to be directly annoying and so take the attention that the patient is compelled to listen to a hallucinatory whispering, although he cannot understand a word. As we will see later, abnormal localizations of phonemes occur, *e. g.*, within the body, in one leg or in one boot, as a patient said. We will now and then find the effect of anxiety localized in this remarkable way. We must perceive in this examples of pathological association in the consciousness of corporality and no longer regard them so strange.

(To be continued.)

PSEUDOSPASTIC PARESIS.

(SIMULATION OF SPASTIC SPINAL PARESIS BY
HYSTERIA.)

By PROF. R. VON KRAFFT-EBING.*

UNDER this caption, based on recent publications by Nonne and Fürstner, I present a number of cases from my practice, which in their majority simulate the picture of spastic paresis so-called, but in which it can likewise be demonstrated that neither paresis nor spasm actually exists, but simulated rather by psychically induced anomalies of innervation in hysterics.

This peculiar disorder in the function of the lower extremities puts one in mind of Charcot's and Grasset's "*Ataxie choreiforme*," *i. e.*, abasia, produced in part by disorder of the coordinating function of the brain, in part by spasm of the muscles.

Also a case of "tremor abasia," which Charcot (*Poli-klinische Vorträge*, translated by Kahane, Bd. II, p. 305) reported on March 5th, 1889, might belong here.

Marie (*Krankheiten des Rückenmarks*, 1894, p. 110) mentions cases of "paraplegia with contracture, which are nearly like spastic tabes," yet the exaggeration of the deep reflexes is less pronounced in them and besides disorders of sensation and other hysterical stigmata are usually demonstrable.

Also the cases of "pseudospastic paresis with tremor," which Nonne (*Neurolog. Centralblatt*, 1896, 12), Fürstner

*English by Dr. W. Alfred McCorn, New York City.

Ibid, 1896, 15) and Onuf (*Ibid*, 1897, 8) have published under the title of a hysterical neurosis, resemble the following observations, are perhaps on a par with them as varieties of one and the same neurotic picture, which possibly presents different traits merely from the difference in etiological factors.

This motor disorder comes nearest to Richet's "psychical contracture" (*Hysterical Paralyses and Contractures*, Paris, 1892). Richet regards it to be a process excited in the brain cortex and cites as evidence that the motor cortical centers in hysteria may cause processes of excitement in form of a "contracture," that such "contractures" may be successfully suggested in artificially (hypnotic) induced somnambulism.

Richet thinks this psychical contracture originated through auto-suggestion without going further into the manner of its being produced.

In contradistinction to the vulgar (spinal usually originating reflexly) contracture, he holds that the psychical is essentially intensified by psychical irritation and interference of all kinds, but particularly by the patient's attention to his trouble, is always temporarily relieved by diversion and completely disappears in quiet sleep.

According to Richet this psychical contracture presents the greatest variations in intensity, localizations violating all empirical laws, is rarely accompanied by sensory disorders and does not properly respond to physical treatment (magnetotherapy), which must be essentially psychical.

Case one. Dr. A., 29, consulted me in the summer of 1887 about a complicated nervous trouble, among whose symptoms very special manifestations in the way of spastic paresis of the lower extremities inconvenienced and troubled the patient. The family of a neuropathic constitution. The father was of an irritable temperament. Three of the patient's brothers are nervous, excitable people. One sister had neurasthenia with agoraphobia and temporary dysthymia from 18. An aunt became hysterical at the climacteric.

Patient was rachitic when a child, later had measles and typhoid. The *vita sexualis* developed early and

intensely. Many pollutions prior to puberty. In spite of great libido abstinence led to neurasthenia sexualis with spermatorrhea. Later development of spinal neurasthenia. At 25 catarrh of the apices of the lungs, which soon recovered. But now general neurasthenia, anemia, besides early exhaustion after relative muscular efforts, particularly in the lower extremities. Residence in the south effected no improvement. The weakness in the legs increased, at times the patient is scarcely able to walk. The left lower extremity fags particularly easy, which the patient ascribes, not without reason, to five months' fencing exercises.

At the beginning of 1886 patient began to worry about his weakness in walking. He could explain it only by the assumption of a myelopathy, consulted specialists for symptoms of convulsive rigidity of the legs, especially in the morning on arising, and an enormous exaggeration of the deep reflexes even to foot clonus had become associated with the irritable weakness.

His autodiagnosis was confirmed by the experts. Hydrotherapy and electrotherapy, sounds and cauterization of the *caput galli* were unsuccessfully employed for the pollutions and spermatorrhea. Ergot and nervines had failed.

Condition July 20th, 1887: patient of medium size, not anemic. Vegetative organs normal. Picture of hysteroneurasthenia levis (dyspepsia from emotion, heart's action very susceptible, great instability of mood, emotionalism, at times groundless depression, quick mental fatigue, aversion for work, nosophobia in the way of spastic spinal paralysis, hyposmia, contracted visual field, difficulty in getting to sleep, bad dreams, sleep unrefreshing, etc). Spermatorrhea on defecation and micturition. *Coram aliis mictio difficilis.* Functions of the bladder and rectum intact. Disorders of sensation to be found nowhere.

Essential amyasthenia in the upper extremities, especially in the left and quick exhaustion. Right dynamometer 45, left 30, on repetition of the test very rapid fall to minimal values. The deep reflexes slightly exaggerated. No dystrophy. Here and there fibrillary contractions, especially in the left thenar.

A feeling of stiffness exists in the lower extremities on awaking. A stiffness of the legs is shown objectively, particularly in the left on voluntary and also passive movement, under the effect of cold, finally in yawning. The upper extremities sometimes participate in this extension and stiffness.

On cautious innervation the tendency to this stiffness may be overcome in a certain measure, at least in the right lower extremity.

If the patient jumps out of bed on awaking he is able to overcome the stiffness in his legs and walk after a few seconds. If he gets up after three hours this stiffness does not exist.

The gait is spastic, but not shuffling. Duration of ability to walk is limited and very changeable. It varies between two to thirty minutes. It depends on the general and psychical condition and after a sleepless night, spermatorrhea and psychical excitement it is much less than usual.

In a few minutes, often after a few steps, a feeling of fatigue occurs and a shorter stop on the left foot is noticed.

The fatigue then increases rapidly, the gait becomes ever more uncertain, until the patient finally drags the left foot and stumbles over the least unevenness in the walk.

The ability to walk is the greatest in the morning on arising and in the evening after dinner. After lunch it is the worst. Ascending stairs and hills is better than the inverse. Standing and turning on the left foot is impossible. Elevation of the extended left lower extremity is not possible to the extent as in the right, nor in a recumbent posture. The function of the left peroneus is much less than the right. Romberg's sign is negative, the muscle sense, deep sensibility intact. Muscle tone not increased. Electrical excitability is normal. The deep reflexes are essentially exaggerated. Foot clonus is always obtainable on the right and left, after a short walk these reflexes are markedly exaggerated, to decrease in repose, still they are constantly more marked than normal.

The left lower extremity is in every way two centimeters smaller than the right.

The condition improved under hydrotherapy and electro-therapy. Observation confirmed the hysteroneurasthenic foundation of the pathological condition. The patient's gait, when he knows he is observed, is much worse than otherwise. In stormy weather, and in a bad mood and after pollutions he walks very much worse. The stiffness of the lower extremities is then manifest only when a feeling of fatigue appears. The impression is then gained that the patient by reason of a feeling of fatigue unconsciously innervates his extensors excessively. At least the psychical influence, but of which the patient is unconscious, is decisive. The very great instability of the rigor symptoms is thus explained. The exaggeration of the deep reflexes is correllative to the irritable weakness of the lower extremities and lessens significantly when the patient is resting.

The auto-suggestion of being affected with an organic spinal disease can not be wholly eliminated. On inquiry as to his condition the colleague of recognized ability in a southern city made the following reply on February 15, 1897:

"The continuation of my clinical history may be given in a few words—the character of the disease is the same—exaggeration of the tendon reflexes (knee-jerk and foot clonus on both sides) and spastic paretic condition of the lower extremities. But the latter has become decidedly worse in the last ten years, so that walking is extremely difficult. My special work renders my trouble quite bearable."

Case two. B., 51, assistant, applied for admission to the Clinic on November 26th, 1896. Patient is a foundling, therefore his parents' health is not to be ascertained. B. has never had lues nor been sick except typhoid fever many years ago.

In the fall of 1890 at a picnic, when he had overdone and drank 1.5 litres of wine, he felt on getting up from the table to go home, great fatigue and stiffness in the legs, was difficult for him to walk forward and felt this trouble when in bed.

The next morning he felt perfectly well and could do his arduous work in the factory. But this stiffness and

fatigue always returned until 1893 after drinking five to six half litres of wine. But since 1893 this difficulty has been constant and only more marked temporarily after drinking wine.

When he smokes a strong (Virginia) cigar his walking is more difficult. Still it was peculiar that when the patient knew he was observed by anyone in the factory, especially by the foreman, he could not take a step. He then felt as though his legs were "bewitched" and was in control of himself when the observer left the room. Patient ascribes this conspicuous psychomotor reaction to the fact that he is afraid of losing his position if it is noticed he has some trouble with his feet.

When he knows he is unobserved he can walk easily without a cane with a load of 50 kilo. In the Spring of 1893 the patient had a feeling of formication in the lower extremities, further had had for a time tactile anaesthesia of the external surface of the left thigh.

During the last two years the condition had become markedly worse, which the patient ascribed to excesses in wine, but particularly to the statement of a physician, that his trouble might result in total paralysis.

On March 21st, 1895, the patient came to the Outdoor Clinic for the first time. He presented extremely spastic paretic gait, which was very susceptible to psychical influences, retained gross muscular strength, intact sensation, exaggerated knee-jerks and foot clonus. In September the patient went to a so-called Kneipp cure and was temporarily benefitted greatly. When he once applied an ice poultice the lower extremities were afterwards immovable for three hours. Being very much worse the patient applied for admission to the Clinic in November, 1896.

Condition November 30th, 1896. Strong man, vegetative functions normal. Cranial nerves and upper extremities free from any disturbances. All movements possible in the lower extremities. No loss of gross muscular strength, except in flexing the knees, while in passive movements a mild degree of rigor is found. The deep reflexes are greatly exaggerated. Vasomotor, trophic, sensory disorders are not

to be found in the lower extremities. Bladder and rectum functionate normally. Hysterical stigmata are not to be discovered. The patient's gait is peculiar, spastic. The legs are held stiff, not bent at the joints, circumducted at the hips. Thus the patient walks on the inner edge of the feet and keeps them dorsally flexed, so that when they touch the floor it is not with the ball of the foot, but the heel. He walks steadily without support, takes *long* steps without swaying.

Consciousness of being observed, psychical excitement renders walking very much worse owing to stiffness of the legs. With diverted attention the patient walks quite well. It is conspicuous that he presents this stiffness only in going forward, but not in walking backward nor in unusual movements. Improved greatly from gymnastics, walking exercises under direction of the physician. Finally the patient stood firmly on one leg. In emotion the previous condition. Discharged improved January 21st, 1897.

Case three. On October 8th, 1890, Mr. Z., civil official, 39, came to me for treatment of a severe trouble sensibly affecting his walking. Patient of healthy parentage. Two brothers died at an early age of brain disease (tubercular meningitis?), two sisters have lung trouble. He has always been healthy, strong, does not drink, never had lues.

On Christmas night in 1899 became extremely chilled on a railway train. Since then a feeling of cold in the upper lumbar and sacral regions. Early in February, 1890, fell on the ice without injury. But patient was greatly shocked. The next morning stiffness in the trunk and lower extremities, some intracapsular pain. Impeded movements of the trunk and difficulty in walking with a feeling of pressure over the buttocks, numbness of the toes, besides quick exhaustion, burning under the skin of the thighs. Constipation, slight dysuria.

During the spring of 1890 increasing paraesthesia and paralgia in the sacral and left lumbar regions, burning on the inner surface of the upper thighs and abdomen. Feeling of cold and numbness in the lower extremities and

trunk to the height of the epigastrium. Increasing stiffness of the legs and motor disorder. Early in July a specialist consulted diagnosed myelitis and ordered sodium iodide and Baden baths. Under this treatment became much worse. After stopping it slight improvement from mild hydrotherapy.

In the middle of October, 1890, he presented the following condition—large, very muscular, well nourished man. No change in the spinal column. Great emotionalism. Cranial nerves and upper extremities without functional disturbance. Hypæsthesia for all qualities to the height of the epigastrium. Complaint of a fuzzy feeling in the soles of the feet. No pains, no spinal symptoms, no girdle sensation.

Spastically paretic, not ataxic gait, possible with a cane, besides quick exhaustion. No defect in the gross muscular strength except slight amyostenia in the right leg. Rigidity of all the muscles of the lower extremities, greater in the right than in the left, most marked during repose, decreasing after passive or active movement.

Intense spasmodic tremor in the upper thighs and abdomen after any emotion. The patient is unable to arise from a recumbent posture without assistance. In motor efforts, which he apparently tries very hard to perform he perspires and becomes dyspnoëtic. Great exaggeration of all the deep reflexes in the lower extremities, patellar and foot clonus. Abdominal, epigastric, cremasteric and plantar reflexes not present. The left cremaster presents almost continuous convulsive contractions. Deep sensibility (sense of position, passive movement) unimpaired. Romberg's sign negative. Slight degree of dysuria. Urine without foreign constituents, vegetative organs normal. Erections rare. Electrical examination presented no anomalies of reaction.

Diagnostically the possibility of a myelitis dorsalis is accepted. Treatment by lukewarm brine baths, galvanization of the spine and ergot with belladonna internally aggravated the condition—increased paræsthesia, muscular rigidity almost constant and extended to the lumbar and abdominal muscles, great exaggeration of the deep reflexes, loss of ability to walk and stand.

On discontinuing this treatment and replacing it by half baths, flaccidity of the muscles, except those of pelvic girdle and adductors. From October 29th on the former condition, but milder. Marked diminution of the muscular stiffness every evening. Remissions and exacerbations wholly unaccounted for by external conditions. Bromides to 8.0 *pro die, ext. conii maculati* to 0.5 daily effected no change in the muscular rigidity. Symptoms of diathese decontracture have never been observed.

During December, 1896, marked hypæsthesia from the feet to the height of the typhoid process, posteriorly to the sixth dorsal vertebra.

Patient presented great numbness in an attempt to hypnotize. In it suggestion that the muscular rigidity will disappear. After this seance, complete relief from it for many hours. Success at other sittings, but not of so long duration, so that finally this means failed. Early in February, 1891, spontaneous decrease of the rigidity. It is confined to the crural and femoral flexors.

At the end of February an exacerbation for no assignable cause—both legs, all the pelvic muscles and lower abdominal region again rigid, the latter as hard as a board and abdominal pressure in micturition very defective(impeded urination). Patient able to stand and walk. The muscular stiffness always the most intense in the morning. Any voluntary, any passive movement increases it episodically, while cutaneous irritation and pressure on the nerve trunks do not effect it. Constant alternation between remissions and exacerbations, which were without ascertainable cause, occurred until the patient went home in June, 1891, after unsuccessful treatment; the exacerbations were always accompanied by marked exaggeration of the deep reflexes. During the remissions the muscular contracture is confined to certain groups of muscles. The rigidly hard muscles were never painful. The great variation in the intensity and extent of the disturbances of sensibility in the lower extremities was conspicuous. So e. g. the condition in May was that the cutaneous and deep sensibility was scarcely deranged noticeably to the knee, then

to the pelvis there was a zone of greatly disordered sensation, while from there to the height of the xiphoid process the sensibility was scarcely affected. These areas of hypæsthesia and anaesthesia varied constantly.

Hysterical stigmata were never to be constated. The great emotionalism of the helpless patient in doubt as to his future was remarkable. I lost track of Mr. Z., one day learned he had recovered and on inquiry received the following information as to the further course of his disease:

"When I went home in June, 1891, I consulted Prof. Kahler, who gave me hope of recovery, although it might take two to three years. He prescribed hydrotherapy and electricity. At the end of August, 1891, I went to the water-cure at Gr., where I remained until October, 1892. I daily took a half bath of 23 to 21 degrees R. (in summer two), for five minutes, received light frictions, was given electricity from the lumbar region to the groin and also had my back stretched for two months (in recumbent posture, the feet drawn toward the head). Medicines were not given.

"In the spring of 1892 a reaction occurred—intense pains appeared in the hips and legs, motility and sensation slowly returned, there were slight exacerbations in that the muscular rigidity became more marked.

"When I came home in October, 1892, I could raise my legs somewhat, but not extend them. At home I improved perceptibly, I could soon stand alone and about New Year's, 1893, walked some. In March I walked readily, without a cane, but soon tired. The former condition has nearly returned, only many times, especially in damp weather and in going down stairs, I perceive a slight weakness. In 1894 I was fully able to walk."

Case four. G., 39, servant, applied for admission to the Clinic on December 8th, 1896, on account of a trouble in walking.

Patient has a rachitic cranium, is of limited mental capacity, claims his mother and his father's cousin had a difficulty in walking similar to his.

Seven years ago after standing in water all day dig-

ging a cellar the patient had rheumatic pains in the knees and lower thighs, recurred and troubled him greatly, particularly when the weather changed. Soon after the occurrence of these pains, which greatly reminded him of his afflicted relatives, the trouble in walking to be described below appeared, has never entirely left him. He feels it especially when he uses his legs after a night's rest. He then notices pain and stiffness.

Present condition—cranium 565 milimeters with prominent occipital and parietal eminences. Teeth poor. No functional disorder of the cranial nerves, except absence of the palate and pharyngeal reflexes on both sides. Spinal column normal. Upper extremities normal with very prompt deep reflexes.

In the recumbent posture the lower extremities readily flexed at the hip and knee joints, the flexor cruris somewhat contracted (more on the left than right). The gross muscular strength and sensation normal. Patellar and foot clonus on both sides. The gait is spastically paretic. The legs are circumducted at the hips, the knees scarcely flexed, knock against each other, the anterior portion of the feet are shufflingly dragged over the floor; the gait completely resembles that of spastic paresis so-called, only the patient takes very long steps and is always very susceptible psychically, in that in diverted attention the joints, the hips particularly, are conspicuously free. No anatomical change is found in the joints. Crepitus is to be perceived in the tendons of the knee flexors on passive movement.

Rigor has never been found. Patients are treated with gymnastics, faradization and wake suggestion. Such influence was gradually gained over him that he can walk without trouble, free movement of all the joints and long secure steps. But if left to himself the patient relapses into his defective way of walking. Patient wanted to go home and was discharged improved January 10th, 1897.

Case five. D., 55, tailor's assistant, admitted to the clinic January 20th, 1897, whose father had been an inebriate. Otherwise no taint is found in his progenitors and

blood relatives. His three children have all had convulsions, his wife has also aborted three times. Lues is neither demonstrable anamnestically nor by examination, he has never drank to excess. As a child was healthy, strong, at 19 brain fever, tetania possibly following. At 35 a questionable inflammation of the brain, at 49 violent contusion of the buttocks, in January, 1895, febrile disease (influenza?) then on health good.

In May, 1895, progressively rapid fatigue in walking, in November, 1895, burning pains in the left buttock and left knee, in the Spring of 1896 formication and feeling of cold in the left ulnar region to the elbow.

Also paræsthesia in the lower extremities, stiffness, especially in the left, pains in the forearm and lower extremities, described as lacerating. Disappearance of libido and potentia sexualis. Constipation.

Condition January 25th, 1897. Patient of medium size, well nourished, cranium regular, circumference 56 cm. Vegetative organs normal, except a slight pulmonary emphysema. Patient of ordinary intelligence, much preoccupied with his trouble, fearing a prolonged serious illness. Cranial nerves normal.

Upper extremities. Gross muscular strength somewhat lessened, no trophic or vaso-motor disorders, all movements possible without ataxia, tremor, etc. Deep reflexes and direct muscular excitability exaggerated more on the right than on the left. In the left little finger tactile, algesic and thermic hypæsthesia exists, in the right upper extremity the same condition on the whole ulnar surface to the elbow. Sense of position essentially disordered in the right upper extremity. No other disorder of sensation. In the trunk impaired motility and stiffness which the patient ascribes to the pain and tired feeling over the sacrum.

Lower extremities. Active motility in all the joints is blunted by rigor, the left more than the right, abductors and flexor cruris are especially rigid. Complaints of stiffness of the legs more on the right than on the left. Temporary spasm in the extensor hallucis exists objectively. Resistance to passive movement is manifested in all the

joints, but conspicuously disappears with eyes closed or the patient's attention diverted. The gross muscular strength is unimpaired, as well as sensation in all its qualities. The deep reflexes are greatly exaggerated, foot clonus is obtainable on both sides.

Patient presents the gait of a spastic spinal paretic. He takes short steps, trips, shuffles slightly, knees knock together, advances with difficulty, all the joints stiff. He tires quickly and then the left leg begins to tremble. With eyes closed he stands firmly at first, but then becomes fearful, begins to sway, which may be relieved by suggestion. With eyes open the patient is apprehensive in walking and is constantly afraid of falling, but which has never happened.

As the patient's disordered motility is very susceptible to psychical influence, his rigor is evidently an excess of unconscious innervation and disappears with attention diverted, any paresis is wanting and geometrically bounded disorders of sensation are present in the upper extremities, the diagnosis of a functional trouble is made and the patient accordingly treated by wake suggestion, electrotherapy and hydrotherapy. In the beginning of May the gait improved somewhat. The patient walked less stiffly, more rapidly and longer, still a contracture of the left gastrone-mius had appeared, so that active dorsal flexion of the foot was not possible and passively only with the employment of considerable force.

A paræsthesia exists in both upper extremities on the flexor surface, which embraces the three last fingers and half of the forearm on its ulnar side to the elbow. On the extensor side this paræsthesia affects the three last fingers and the whole forearm to the elbow. Within the paræsthetic area cutaneous hyperæsthesia and hyperalgesia exist. Otherwise the condition the same. On May 15th, 1897, the patient left the hospital to go to a hydropathic institute.

On the day of discharge the deep reflexes in the lower extremities are greatly exaggerated, foot clonus on the left and manipulations of the left lower extremity cause a coarse tremor of the whole leg. The rigor exists only in walking

and passive movement when the patient has his eyes open. Otherwise it is entirely absent. A lowering of the gross muscular strength is nowhere to be found.

Case six. Sch., 31, hair dresser, admitted February 3d, 1897, whose father was neuropathic, irascible. A brother of the patient is psychically ill. Formerly healthy patient became ill, apparently without preceding emotion trauma, febrile disease or lues, in 1890 with formication in the foot, rapid fatigue and weakness increasing to a monoparesis of the left lower extremity so that he dragged the foot in walking. The physician then diagnosed hysteria and confirmed it five weeks later.

In 1891 these disorders in the left lower extremity returned for no assignable cause and did not yield to medical treatment. Since 1894 the patient has felt a stiffness in the left leg while in repose, but which disappeared on movement. Early in 1895 weakness and stiffness also appeared in the right lower extremity. Patient ascribes this to excessive demands on the right lower extremity, for the left was insufficient in walking. There is no paresthesia on the right. Since the end of 1896 he has had now and then in urinating a cutting feeling in the bladder and dysuria. Relative incontinence is temporary.

Early in January, 1897, after a warm bath his legs became perfectly stiff and he was unable to walk. Condition February 5th, 1897. Strong, well nourished individual somewhat limited mentally, much preoccupied with the functional disorder in the lower extremities, which he evidently considers a serious illness. Cranium slightly deformed, occiput prominent, circumference 56.5 cms., torus palatinus. Vegetative functions normal, no trace of lues. Testicles very small, soft, masturbation not admitted. Cranial nerves intact, still visual field slightly contracted on temporal side, fundus and vision normal.

On the trunk from the arch of the ribs to the height of the navel, posteriorly four fingers' breadth below the angle of the scapula to the crest of the ilium extensive girdle like zone of tactile, thermic and algesic hypesthesia. Patient is unable to rise up in bed alone, but readily when

the physician's finger give a relative support to the back. No functional disorder in the upper extremities.

Lower extremities. Muscles strong, tone good, no atrophy. Sensation intact, no vasomotor or cutaneous trophic disorders. In bed the legs are extended, adducted, feet in slight varoequinus position. In trying to walk stiffness appears immediately, total inability to walk and falling from failing joints. The deep reflexes are exaggerated, indication of foot clonus on both sides.

On careful examination a certain degree of rigor appears merely in the adductors cruri and in the plantar flexors, but which is not always demonstrable and disappears completely in sleep. With the patient's attention directed to his feet the rigor at once becomes noticeable. If he is put on his feet it at once becomes general, but at once disappears when the patient is unsupported and he immediately sinks to the floor. This rigor is always very susceptible to psychical influence. Neither by kneading the muscles, cutaneous irritation or pressure on the nerve trunks, with eyes closed, contracture can be obtained.

No diathesis de contracture exists. A contracture produced by faradic irritation at once disappears on discontinuing the stimulus. No resistance is offered with eyes closed to passive movement in some groups of muscles. Inversely as soon as the patient is prepared for it, rigor and marked passive resistance occurs.

Now and then unconscious movements occur in the lower extremities and the impression is gained that a real paralysis nowhere exists, but the voluntary execution of movement in the lower extremities encounters the greatest difficulty and results in minimal locomotor effects. This may be ascribed to the immediate rigor of the muscles in intention, but essentially to an exaggerated unfitness of innervation, as if the patient had lost all motor ideas. Thus the intention stimulus irradiates to remote groups of muscles, not belonging to the action, while it is manifested only minimal or not at all in the real areas.

If the patient is requested to dorsally flex the great toe of one foot he fails; adduction and flexion in the ankle

appear instead, sometimes even in the knee and hip joints. In attempting to move the great toe volarwards momentary vigorous impulses occur, but the effect is thwarted by wholly irrelevant rotary movements in the hip and ankle joints and extension of the foot. If these movements are made on the patient and he is drilled in them, they are executed a little better for a time. Patient is unable to move one extremity alone, the other always accompanies it. The functions of the bladder are wholly undisturbed.

Case seven. In July, 1895, a colleague, Dr. X., 54 years old, consulted me about a difficulty in walking. He came from a family in which no neuroses or psychoses have occurred except a case of paranoia in a brother of the father. X was strong physically, but emotional, excitable, of temperate habits, never had syphilis. Various adversities, emotions since his marriage at 22. Serious illness of a daughter on whom the patient was obliged to perform a severe operation. Further family cares, overwork as physician and sanitary officer. Following these pernicious agencies X. noticed at the end of 1884 stiffness in the right ankle, quick fatigue in walking, numb spots the size of a small plate on the extensor side of the right thigh and great emotionalism.

In July, 1895, after increased stress, patient noticed that his right lower extremity was scarcely usable from stiffness and weakness, dragged in walking and described an outward curve. A prominent clinician diagnosed myelitis, found patellar and foot clonus on the right, the left lower extremity intact. Improvement under hydrotherapy and galvanism. After renewed stress aggravation, likewise weakness and stiffness in the left lower extremity.

Therefore the patient's chief difficulties were rapid exhaustion, heaviness and stiffness of the legs, especially the right, twitching and tremor in both, particularly in the morning in bed and after walking, then annoying muscular spasms with actual prominence of the muscles and essential increase in general stiffness, occasionally formication in the toes, *dorsum pedum*, muscles of the calves. Bladder and rectum were undisturbed in their functions. Vertigo

frequent particularly on the street and in bright light. Outcries and feeling of oppression frequent in the night.

Condition July 20th, 1895, a stately, vigorous man without signs of senility. Vegetative functions normal. No disorders of the cranial nerves. Function of the upper extremities normal. No disorders of sensation. Here and there temporary paræsthesias on the right thigh. Frequent pains in the region of the tuber ischii while sitting. Bladder and rectum intact.

Patient walks difficultly, with short steps, spastic. The free motility in all the joints seems impeded, but especially in the hip and knee joints, and more on the right than on the left. Now and then mild coarse tremor appears. No rigor exists in passive movement. The more the patient walks the freer becomes his gait. This is true temporarily after the morning half bath. In spite of his disorder in gait the patient is able to attend to his quite large practice.

The deep reflexes are exaggerated, indication of foot clonus on the right. Gross muscular strength unimpaired. The most careful test of sensibility is unable to demonstrate any disorder. Sense organs intact Ophthalmoscope reveals no lesions. Hysterical stigmata and neurasthenia are not to be found, still patient is emotional, nervous and reported that he often has the feeling of an electric shock from the head down the spinal cord. My diagnosis was a functional trouble. I prognosticated improvement and recommended a continuation of half baths and galvanotherapy, in which the patient had great faith.

If it is attempted to analyze the preceding cases and to bring into prominence the states common to them, two series of symptoms appear:

First. A *disorder of innervation in the lower extremities* which temporarily or permanently induces partial or general abolition of volition or at least failure of coordinated innervation of the muscles necessary to the intentional motor act.

This manifestation is a functional disorder of purely cortical location and psychical origin. It simulates a paralysis, but this must be at once given up when the free

motility and apparent muscular strength is perceived in such patients with attention diverted, respectively unconscious movement. But such experiences are common in hysteria. It is sufficient to recall the fact that in such the amaurotic eye does not consciously participate in perceptions but unconsciously (looking through a stereoscope) in the (binocular) visual act.

In the above cases the motor ideas are doubtlessly present, unconsciously but not consciously utilizable. This points to inhibitory influences which disturb their utilization in conscious mentality. As such only psychical factors in form of inhibitory ideas arising auto-suggestively are conceivable. It is interesting that unusual acts, like walking backward *e. g.* (case two) may be strikingly well performed.

In all the above cases where a psychological analysis was possible inhibitory ideas were met with. In case one this influence was manifest only temporarily, when the patient is reminded by the feelings of exhaustion (complicating neurasthenia) of the terrors of myelitis. In case two it existed at first only temporarily with disorder of innervation of the lower extremities due to alcoholic excess, or when the patient knows he is observed by an overseer.

It finally becomes permanent through medical suggestion of a prolonged illness impending. In case four worry about a prolonged illness exercises and supports such an inhibitory influence, in five a fancied grave (organic) trouble, in seven worry about myelitis.

In none of these seven cases is there an actual loss of gross muscular force, at most rapid exhaustion ex neurasthenia (case one) or hysterical amyosthenia (case three), which are suited to support the above inhibitory ideas.

Second—*Spastic symptoms* are associated to such a pseudosparesis, true volitional paralysis. This rigor is a pseudospasm of purely psychical origin, disappearing in sleep and with attention diverted, whereas while awake and attention present, by intention, passive movement, stimulation from cold is capable of a marked exaggeration.

If the absence of all other conditions for the occur-

rence of a contracture (absence of diathese de contracture, of reflex irritation from the joints and peripheral nerves, of signs of an organic disease in the corticomuscular tract) indicates a physical origin of these symptoms of spasm, the great instability of these pseudospasms in intensity and extent is characteristic.

But it is not a matter of contracture, but an abnormally intense, excessive contraction of muscles replacing the voluntary, but occurring unconsciously.

The explanation of these muscular contractions so unstable and preferably affecting the extensors can only be that the patient preoccupied with the idea of the insufficiency of his lower extremities and the danger of falling, unconsciously and involuntarily uses his really unimpaired muscular strength excessively in the adverse way, in which it is occasionally evident to him by the awkwardness of his innervations, that antagonistic muscle groups and those not concerned in the preservation of the erect posture experience this excessive innervation influence.

Third.—Of the other symptoms the constant presence of an *exaggeration of the deep reflexes* is to be mentioned, a condition, which is found in all psychical "paralyses" and is evidently to be expected whenever in the corticomuscular tract the action of the inhibitory nerves is blunted. In case one the amount of exaggeration of the deep reflexes varies according to the greater or less psychocortical innervation.

Disorders of sensation evidently are not common to the form of disease. If they occur it is a matter of complications in the way of a traumatic neurosis (case three).

The tremor, which was so marked in Fürstnar's cases, seems to be a factor only with traumatic origin as in my case three. In case four it is only temporary and might be called exhaustion tremor.

The disorders of the bladder do not occur in pseudoparesis apastica *per se*. The slight dysuria in case three is well explained by derangement of abdominal pressure, owing to involuntary contraction of its muscles.

By the positive factor of the exaggeration of the deep

reflexes and the negative of intact sensibility and bladder function in the form approximates that of spastic spinal paresis. This deception is increased by this pseudoparesis being generally a monosymptomatic manifestation of hysteria.

The severity of the trouble is shown by the stationary condition of case one for over ten years, as well as by the slight effect of treatment in four, five, six and seven.

The therapy can only be psychically suggestive by the use of the suggestive influence of electricity, instructing the patient in learning to walk again (case six) and overcoming his autosuggestions.

DIPSOMANIA ENDING IN PARANOIA.

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Congress 1893; Member International Medical
Congress, 1900.

ACCORDING to testimony given two decades ago by Dr. J. P. Gray,* "kleptomania" is a word used to express thieving; there is no such insanity. Dipsomania is drunkenness; it is not insanity at all. Pyromania, incendiarism, a crime. All these terms are makeshifts to secure escape from punishment for crime. This however represents neither clinical nor forensic psychiatry in America. Dr. W. W. Godding,† commenting on it feelingly voiced the vast majority of American and European alienists when he remarked: "We cannot deny that the old masters were as keen-sighted observers as ourselves. I dislike to hear drunkenness called dipsomania, as I so often do; but I do not therefore say that dipsomania is only drunkenness. It might improve my standing with the legal fraternity if I should pronounce kleptomania only another name for stealing; but my personal observation convinces me that the insane have sometimes a disposition to steal, which is a direct result of their disease, and for which they are no more accountable than the puerperal maniac is for her oaths."

*Trial of Gulteau, Part II, p. 1674.

†Two Hard Cases.

Judge Doe, of the New Hampshire Supreme Court, affirmed a similar doctrine to that of Dr. Godding in the case of the State vs. Pike. The prisoner being indicted for the murder of one Brown, his counsel claimed that he was "irresponsible by reason of a species of insanity called dipsomania." The lower court instructed the jury that "if they found that the prisoner killed Brown in a manner that would be criminal and unlawful if he was sane, their verdict should be 'Not guilty by reason of insanity,' if the killing was the offspring or product of mental disease in the defendant; that neither delusion, nor knowledge of right and wrong, nor design or cunning in planning and executing the killing and escaping or avoiding detection, nor ability to recognize acquaintances or to labor or transact business or manage affairs, is as a matter of law, a test of mental disease; but that all symptoms and all tests of mental disease are purely matters of fact to be determined by the jury; that whether there is such a mental disease as dipsomania, and whether defendant had that disease, and whether the killing of Brown was the product of such disease, were questions of fact for the jury." This instruction Judge Doe, in a decision replete with lucid grace of diction, clear logic, and scientific precision, affirmed.*

The plea was employed in the case of People vs. O'Brien, tried in Chicago in 1896. The chief forensic points involved, and the general history so far as the defense of dipsomania is concerned, are summed up in the hypothetic case, (*Medicine*, 1896).

"Take a man whose mother was considered insane by her son-in-law and grandson; whose father was a periodical drunkard; whose sister was insane, and was an inmate of an insane hospital; whose other sister was peculiar, and in the language of a layman, 'a little off'; whose maternal aunt is peculiar, and considered by at least two of her relatives insane; whose maternal first cousin is an idiot; and whose nephew has periods of seeming unconsciousness.

"Assume that this man when sixteen years old worked all night without necessity, and that, when asked in the morning why he did this, was apparently unable to give either a coherent account of what he did or why he did it.

*Lawson's *Criminal Defenses; Insanity and Drunkenness*.

That in mid-winter, when he was about sixteen years of age, he caused the machine knives to be ground to cut grass, although there was no grass to be cut; that on another occasion he ordered cows driven out of an orchard lest they eat the apples, when there were no apples there and snow was on the ground. That this man, now at the age of about 38 years, for a known period of six years immediately prior to the present time has had brief periods when he became morose, restless, gloomy and absent-minded, and the expression of his eyes and face changed; that then follow violent drinking spells, lasting from four to ten days; that he then drinks intoxicating liquor, with or without company, in great quantities. During these drinking spells he is suspicious, extremely quarrelsome, boisterous, rough and coarse in manner, and does not discriminate in his violence between friend and foe. That these periods terminate in prostrating sickness; that on recovering from these drinking spells he is pale and looks as though he had passed through a fit of sickness; that between these drinking spells there are irregular intervals of from four to six weeks when he is quiet in manner, neither profane nor vulgar in speech, attentive to his saloon business, and will often refuse intoxicating liquors; that just precedent to, during, and immediately after his drinking spells, his manner is in such marked contrast with the sober periods that he has been thought to be insane and crazy by several persons well acquainted with him. That his conduct during these drinking spells is marked by strange extravagances. On one occasion he took a bear in a buggy for a drive. On another occasion, on Christmas day, in one of his saloons, then well patronized, he ordered the customers and bartender out and locked the place up, and was seemingly unable to give any good reasons therefor. On another occasion he shot at a colored man twice, in order, as he stated to the bystanders, "to show them how to kill a nigger." On another occasion he wished to erect a tank in the back yard and to hire a high diver to dive off the adjacent building. That, about seven years ago he became acquainted with a married woman who had left her husband in California and was visiting in Chicago, and from that time until about the month of May, 1895, he lived with said woman in open adultery, and in said May (while in one of said drinking spells) went with her to the city of Milwaukee, where he was married to her by a justice of the peace; that from that time until November 9th, with the exception of a short interval, he lived with her as his

wife; that on or about said November 9th she left him, and did not again live with him; that during the month of September, for a period of about ten days he drank excessively and had an attack in which he was found wandering dazed about the hall of a hotel between 2 and 3 o'clock in the morning; that at the end thereof he remained sober, attending to his usual vocation as a saloonkeeper until on or about November 9th, when one of his drinking spells began, continuing until his arrest on November 19, 1895; that during Thursday, Friday, Saturday, Sunday and Monday night, he was very restless and unable to sleep; that frequently during these times he would go about his room with a frightened look, and try the doors and windows, apparently to see that they were locked and fastened, and while so doing would carry a revolver in his hand, and, during the time that he was lying in bed, constantly kept said revolver within his reach. That he, some hours before the homicide, drank much intoxicating liquor; that about 1 o'clock of the day of the homicide, at a messenger service he asked for a messenger boy, and sent a note to his wife —the boy failed to find her, and did not deliver the message; that still later he sent another note, which was not delivered; that afterwards, at his saloon, he drank more liquor; that at or about 4 o'clock of said day he left his saloon and went to where his wife then was with her sister, and rang the bell of the flat adjacent to the door of the flat where his wife was, whereupon his wife, accompanied by her sister, went to the door of their apartments, opened it and said, "Hello, brother," and he replied, "Don't touch me." That he had his hand on his right overcoat pocket; that his wife went ahead and he followed her to the front parlor; that she said: "Here are those keys;" that he said, "When did you stay with that white-livered——?" that she replied, "I never did;" that he then said, "Tell me or I will kill you;" that she said, "I never did;" that then two shots were heard, when the sister ran down to the street crying for help, whereupon certain persons from the street visited said parlor and found the wife lying dead from the effects of two pistol wounds; that one of the windows in the room was broken apparently by the revolver, from which the said fatal shots were fired, being thrown through it; that he, after said homicide, went down the back stairs, through the alley, to the rear of his saloon, and drank liquor; that he was in his saloon when the policeman entered it and said "We want you," and at the same time the officer placed his hand upon him and he

replied, "What do you want me for?" and the policeman replied, "I guess you know." That he was then taken without resistance in a patrol wagon to a neighboring police station; that when received at the police station he was searched and some articles of personal property taken from him, among them a diamond pin; that when that was removed he said to the officer in charge, "It is a valuable pin—take good care of it—it is worth \$150." That when asked, "where is the gun you used?" he replied, "I have used no gun." That then he asked to wash himself and was shown to the wash-room, where he washed his face and hands; that after doing so he looked at himself in the mirror and while so doing stroked his moustache. On the following morning, on his way to the inquest, he asked where he was being taken, and stated to the officer in charge that he wanted a continuance.

This evidence was admitted by Drs. Harriet C. B. Alexander, H. M. Bannister, J. A. Benson, H. N. Moyer, J. C. Spray and myself, to be sufficient to establish the existence of dipsomania. This psychosis was defined by all these physicians as a periodical insanity, characterized by an irresistible craving for alcohol or narcotics during periods, preceded and followed by mental change in the individual affected. These periods are intermingled with periods of sobriety. The alcoholic element was regarded by all as a mere manifestation determined at the outset of the periods. The victim of dipsomania, in the opinion of all, would be insane during the drinking periods even if alcohol were not used. The position of the defense on the status of dipsomania in nosology was essentially that of Krafft-Ebing, Ritti, Kræpelin and Schuele. The demarcation made by the experts for the defense between dipsomania and drunkenness was that of Lagrain.*

An alcoholic patient becomes insane because he drinks; a dipsomaniac is insane before he commences to drink. Dipsomania may be complicated by alcoholic symptoms, but alcoholism never leads to dipsomania. Alcoholism is an intoxication which has as its cause alcohol; dipsomania has its cause in a defective mental condition, and alcohol is but a secondary factor, which may be replaced by any other

*Tuke's Psychological Dictionary.

poison, leaving to the syndrome all its psychologic characters. Dipsomania proceeds in paroxysmal attacks, and the appetite for strong drink is absent during the intervals between the attacks. Alcoholism has no definite course—its development depends directly upon the more or less considerable or prolonged consumption of alcohol.

The hypothetic case, included, in accordance with the usual system of Judge Russel M. Wing, the chief counsel for the defense, just sufficient evidence to justify the diagnosis of the mental state, of the amount of will power, and of the specific psychosis. The case as presented to the jury contained other factors less incriminatory to the accused and other evidence more strongly demonstrating defective heredity and dipsomania. The state pursued the opposite policy; all evidence implying insanity was omitted from its hypothetic case; it presented also a mutilated copy of the hypothetic case of the defense to its experts.

Drs. Archibald Church, Sanger Brown, and Richard Dewey appeared for the state. They answered that the subject of the hypothetic case of the state was sane, as every expert for the defense would have done. They also stated that the hypothetic case of the defense had been presented to them and that the subject of it was sane. On cross-examination, Dr. Church gave the same symptoms of dipsomania as those presented by the hypothetic case of the defense, whereupon it was presented to him in its entirety. To it, Dr. Church answered, that the person of that hypothetic case was insane with the type of insanity called dipsomania; that his knowledge of right and wrong was doubtful, and that he was the victim of an irresistible impulse. Drs. Sanger Brown and Dewey substantially agreed with Dr. Church on cross-examination. The position of all three as to the neurologic status of dipsomania was identical with that of the experts for the defense. The position of Drs. Dewey and Brown as to the individual of the hypothetic case of the defense was less emphatically expressed, but was practically identical with that of Dr. Church; the results of whose cross-examination, naturally under the circumstances, strongly influenced the jury. No

examination of the accused was made by the experts on either side. The jury was left to decide as to the validity of the two hypothetic cases. On the first ballot the jury stood six for hanging to six for acquittal on the ground of insanity; on the second ballot five for hanging to seven for acquittal on the ground of insanity; the third ballot resulted in a vote of eight for acquittal on the ground of insanity. The jury then agreed on a verdict acquitting the accused on the ground of insanity, conditional on the Court committing the accused to an insane hospital as a still dangerous lunatic. The Court declined to assume such powers, although permitted to do so by the Illinois criminal code. The jury then attempted to find the accused guilty of manslaughter so that he could reach an insane hospital through a penitentiary. Four, however, still sturdily voted for acquittal on the ground of insanity. The jury was then discharged, unable to agree.

The jury was clearly convinced that dipsomania was a well-defined form of insanity, and that the subject of it was so dangerous as to require permanent insane hospital treatment. As there was a "hanging" epidemic among juries just precedent to this trial, it must be obvious that even under disadvantageous circumstances the seemingly dangerous defense of dipsomania can be successfully made scientifically before an intelligent jury. Furthermore, the case shows that the hypothetic method of presenting evidence is far more just and clear to a jury than when combined with the fact of examination. Examination of an accused person is generally a wild absurdity unless the physicians have the clinical history. In court the clinical history cannot be used, as it is practically hearsay evidence. The jury is hence confused, since a conscientious expert, used to legal procedures, will, in accordance with his oath, exclude all but the results of his examination, while the omniscient professional swearer will, in defiance of all laws of evidence, testify to the results of hearsay as facts resultant on examination. Fact witnesses and opinion witnesses should hence, in the interests of justice, be separated. The time-dishonored mob-law right-and-wrong test,

under the decision in the case of *Hopps vs. the People*, can only be used by trick and device of the state's attorney in Illinois.

The difficulty encountered by the jury in the disposal of the case must be felt by every thinking alienist. Some act embodying a modification of the English "commitment pending Her Majesty's pleasure," suitable to other English-speaking countries, seems desirable. Another desideratum in the interests of justice is a modification of state statutes which put a premium on judicial murder by paying fees for conviction to states' attorneys. Lasegue and others claim that dipsomaniacs never manifest the symptoms of alcoholism. This clinical criterion, as Legrain points out, is erroneous, since dipsomaniacs, even if their attacks do not last a long time, often show symptoms of alcoholic poisoning—excitement, tremor, delusions, nightmares, hallucinations, etc. That at the expiration of some of the "drinking spells," alcoholic mental states were present, seems clear from the hypothetic case above cited, which also suggests that the individual at the time of the homicide was in a most forensically dubious alcoholic mental state, which, according to testimony of those present at the coroner's inquest, lasted even till then, days after. This testimony was intentionally omitted from the hypothetic case of the defense on the system already described.

Identity of dipsomania and voluntary drunkenness was claimed by the state, but this claim was upset by its own experts. Dr. Sanger Brown took the position that the voluntary drunkard is a sane man who drinks, while the dipsomaniac is an insane man who drinks.

Dr. Harriet C. B. Alexander held that even during the sober period the legal responsibility of the dipsomaniac was dubious, and in the event of crime, the burden of proof of sanity rested upon the state. This position is essentially sound from the ordinary legal standpoint of responsibility, is in full accord with that decision of Judge Harlan of the United States Supreme Court, which wiped out of existence demagogic decisions of the State Supreme Courts, that have held that the prisoner must prove his insanity beyond a

reasonable doubt—decisions inconsistent with abstract justice and anarchically inconsistent with that fundamental principle of the criminal law of English-speaking countries, that every one must be presumed to be innocent until proven guilty.

The experts for the defense, cross-examined as to the forensic bearing of the language used at the time of the homicide on the question of will-power and premeditation, answered that taken alone it was purely negative in value, and taken in conjunction with the other factors of the hypothetic case it had no significance; corroborated by other facts bearing on the existence of will-power, it might be of value. This position was based on the fact that delusional threats and suspicions are often uttered during alcoholic, post-periodic, and epileptic mental states of which the utterer has, at the best, but a dazed consciousness. The answer was further based on the broad scientific principle that intelligent acts cannot legally or medically offset distinct evidence of insanity.

Certain clinical data were lacking in the case, from the psychiatric standpoint, of especial interest and the aimless insane performances during puberty suggest that cerebral automatism which occurs in degenerative periodic types and affiliates these to epileptic mental manifestations. These performances passed, at a later date, into the rather suggestive acts of the "drinking spells," and hence were an expression of a degenerative defect which was accentuated into irregular periodicity after the age of twenty-five (the expiration of puberty), but masked by alcohol.

The later evolution of the psychosis tended to show that at the second trial owing to financial difficulties it proved impossible to bring witnesses from a distance. The experts were out of town. The jury found the accused guilty of murder and sentenced him to fourteen years in the penitentiary. Here the periodic outbursts became so demonstrably uncontrollable that in two months he was transferred to the criminal insane hospital at Chester. There the periodic outbursts were found to result from culmination of persecutory delusions of the systematized

type accompanied by hallucinations. These periods were preceded by sullenness and depression. After four years residence in the Chester Insane Hospital he was pardoned by the governor for transfer to an eastern insane hospital, where he now is. At this time the persecutory systematized delusions were continuously part of the mentality and the patient was a fairly typic delusional paranoiac. The case illustrates how much mental defect often underlies conditions charged to alcohol. It also shows that in certain cases delusions may be controlled by a good mental background until this is upset by alcohol.

The outcome of the trials demonstrates the justice of the Wisconsin law, whereby the county pays the expenses of both sides in criminal cases, should the jury disagree or should a new trial be granted by the Supreme Court.

THE RATIONAL TREATMENT OF LOCO-MOTOR ATAXIA.

By DR. CURRAN POPE,

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Consulting Neurologist, Louisville City Hospital; Member of the American Medical Association; Mississippi Valley Medical Association; Kentucky State Medical Society; American Electro-Therapeutic Association, etc., etc.

THIS disease is a primary degeneration of the sensory neurons, located in the posterior columns of the spinal cord; sclerosis is purely secondary, so there is really no "choking" of the neuraxons as heretofore previously held. Degeneration of the neuraxon occurs, leaving a space, and nature, abhorring a vacuum, fills in with sclerotic tissue. In passing it may be remarked as a disease of middle life, especially prone to occur in syphilitics (60 to 90 per cent.) but *it is not a syphilitic* disease; syphilis predisposing the neural elements to degeneration by altering the physiological conditions. It occurs more in the intellectual and cultivated classes, and in those subjected to causes producing leg weariness.

It is my uniform rule to make a careful examination for this disease in every patient that has, or complains of having had rheumatism, and it should be a rule to which there are no exceptions that patients who have had specific infection should be examined for tabes.

As soon as we have made a diagnosis of the disease, I am of the opinion that the patient should be told owing to

the length of time needed for treatment. He must be informed that the disease is a serious one and that unless he wishes to become disabled he must follow a careful plan of treatment which has for its purpose the arresting of the disease and restoration of function.

The question of stopping the occupation of a patient is a serious one and in each case the decision must be individual. My plan is to decide the question on the following basis: if run down, weak, anaemic, neurasthenic, etc., or if complications exist, to remove him from business and secure complete rest, treatment, etc., in my sanatorium, allowing him later to resume his old occupation or a new business. The occupation that he must follow should be one in which worry, care, and "leg strain" are reduced to a minimum. If he has been a busy, active man and is at once removed from all possibility of ever following active business or profession he is apt to become morbid, introspective, depressed and irritable. He is willing, as a rule, to give up for a time; return to activity and work helps to pass the time and makes him forget his infirmity.

The diet should be generous, and as far as possible, little restriction placed upon it consistent with the state of his digestive capacity. It should be mixed and one in which vegetables and fats predominate. Dairy products and especially milk and butter should be freely used. In some cases I crowd the nutrition by adding additional meals. Much has been written with regard to the use of stimulants in these cases; it is best to give up tea, coffee, beer, wines, liquors and tobacco, but extended observation has taught me that judgment must be used, especially in cases where there has been long continued use of these articles. If moderate use does no harm we must remember that taking them away robs him of a great luxury. Rest is an essential element in the treatment of these cases. Early to bed and late to rise is a good motto; he should secure nine to twelve hours rest daily. In the sanatorium additional rest is taken after treatments. Very active walking must be avoided and any strain upon the spine or legs is absolutely contra-indicated. In fact, all excessive

corporeal exercise should be avoided, as in these cases the muscular fatigue sense is blunted. Of general exercises driving in the worst stages and golf during convalescence are probably the best.

Care must be exercised in general hygiene. Cold should be avoided and warm clothes and underwear worn in winter, and when the ground is wet or slick gum shoes are essential. Corns should never be cut. In summer light, cool underwear and thin clothes are necessary. The digestion, bowel and kidney must be regulated and plenty of water ingested. Laxatives are, as a rule, indicated, though the mechanical treatments usually overcome constipation. Wherever the practitioner makes a close study of how to improve the general nutrition he will be rewarded, as it will aid the neural elements to quicker and better assert themselves.

MEDICINAL TREATMENT.

The first and most important question is that of anti-syphilitic treatment. *I have never seen the slightest good result* from mercury in large or small doses nor from iodide of potash in any dose nor from a "course" at Hot Springs, but I have had indisputable evidence of injury resulting from such treatment. One should bear in mind the experience of Drennen of Hot Springs, who found the long continued use of iodide of potash to not only increase the symptoms, but actually act as a causative agent. Nearly every case that I have seen has had such treatment and has invariably been injured. This is the observation of a host of European and American neurologists. *The only demand that exists* for the use of rigorous anti-syphilitic treatment is the presence of true syphilitic manifestations in skin, bones or mucous membrane. Care must be taken to differentiate spinal syphilis from tabes. If a tabetic is given mercury watch his color, haemoglobin and weight.

The only drug that I have found useful and that further experience has taught me is good for the disease process is silver nitrate taken in $\frac{1}{6}$ to $\frac{1}{4}$ grain doses three times daily one or two hours after meals. The only tonics

I have found helpful are iron, arsenic, quinine, cannabis indica and the glycero-phosphates. Strychnia, which is very frequently given, should rarely be administered and then in minutest doses, as it is apt to produce nervous erythrism and increase the pains. From the days of Brown-Sequard to date the serums have not shown sufficient result to justify or warrant their use or recommendation by any neurologist well acquainted with the disease. I use the following symptomatic treatment when needed; for pain acetanilid, caffein, camphor monobromate and cannabis indica combined; or phenacetin, antikamnia and salophen combined, but general treatment helps the most. In the crises morphine is the best and only thing that will immediately check them, but it must be used with care and caution; of late heroin has proved of service in my hands. For the vesicle retention and incontinence nothing equals the catheter, using sterilized water and antiseptics. Internally hyoscyamus, buchu and boric acid may be administered. The faradic current intra-urethrally gives excellent results. For amaurosis, one of the saddest occurrences of this disease, I use hypodermics of strychnia 1-100 cautiously increased or

Cyanide of gold and potassium, 20 cgn.
Distilled water, 10 cc.

Five drops of the above solution are injected into the back muscles and increased one drop daily until fifteen is reached; then stop a few days, recommence with fifteen drops and reduce one drop daily until five is reached; then follow with strychnia.

MECHANICAL MEASURES.

It is now the consensus of opinion among nerve specialists that the patient must in this disease rely upon these mechanical forms for relief: Hydrotherapy, electricity, massage, gymnastics, suspension and rest.

HYDROTHERAPY.

I usually start my patients upon the use of the half bath. In this procedure the patient is seated in a large tub in about twelve to fourteen inches of water, at a temperature

ranging from 85 degrees to 70 degrees, and steadies himself by holding to the sides of the tub. The attendant at once commences to rub the lower extremities vigorously, kneading and massaging the deeper structures as well as the superficial. At the start the duration is two minutes increased a minute until five is reached. As a finish a large pitcher of water at 80 degrees to 60 degrees is poured down the spine. The spinal action may be enhanced by a previous salt rub. The bath is finished by hard friction with warm Turkish towels. The action upon the body of the agitated water accompanied by friction stimulates the peripheral nerves, dilates the superficial blood vessels, deepens respiration, increases oxygenations and exercises a calming, as well as stimulant effect on the sensory nerves, removing muscular and nervous debility.

Patients who react well, who have sufficient flesh, who are full blooded and strong, may at once be placed with benefit on more active hydriatic procedures. My favorite plan is as follows: The use of the electric light bath until mild sensible perspiration ensues; this is to be followed by a spray or rain bath 104 degrees for two minutes, reduced gradually, under a pressure of 25 to 40 pounds, from 70 to 60 degrees as the patient progresses. The douche may be substituted and lower temperatures used. These applications should never be made by the patient himself, but by an attendant in well equipped sanatoria and hydriatic institutions where the bulky paraphernalia is at hand, and where trained nurses and attendants follow the written instructions of the therapist.

The douche is a powerful stimulating procedure. Its effect fulfills and calls into action nearly every physiological function; it arouses and moves to healthy action the nervous centers; deepens the respiration; increases the circulation in a way that excels all other treatment, hydriatic or otherwise. Its local action is a thermic massage.

Preceded by the electric light bath its action is much enhanced, as this bath of itself is active, vitalizing and by its influence heat is collected on the surface, the sensitiveness of the skin enhanced and reaction, which is always

aimed at, is more easily secured. The douche can be administered at much lower temperatures, owing to its mechanical effect, which increases the rapidity of reaction. Where low temperatures are used their application should be brief and patients' peculiarities carefully studied. The presence of a rosy skin, full pulse, sense of well-being and increased activity show that its end has been attained. Winteritz, Leyden and other foreign writers, after experience with thousands of cases, regard hydrotherapy as the first among therapeutic measures in this disease.

ELECTRICITY

Occupies an important position; overpraised by some; sneered at by other cynics; the most stringent opinions being passed by those who have never studied or used it. I place at the head of the currents static electricity. I use the heaviest sparks to spine, extremities, epigastrium and bladder, this to be followed by head shower or insulation. The sparks should be the heaviest possible and up to the patient's full toleration. Especial care should be devoted to anæsthetic regions such as hips, feet, soles, etc. Of late I have been substituting the currents of high tension for the insulation and head shower, and have satisfied myself that it exercises a marked influence in improving the general nutrition, relieving the lightning pains and promoting a feeling of well-being. The next current I prefer is the galvanic. I generally apply same in two ways. (a) The cathode pole, a pan in which the feet are placed; anode nape of neck, or labile to spine for three to five minutes, using from 10 to 30 milliamperes; then large pad over lumbar region for five minutes, using 20 to 50 milliamperes. (b) Cathode indifferent electrode, 12x20 inches, on abdomen; anode nape of neck, 10 to 20 milliamperes, five minutes; large pad, 6x8, lumbar region 20 to 40 milliamperes, five minutes. With this may be combined the faradic.

The rationale of the action of electricity in this disease is still unexplained and more or less empirical, but it has always seemed to me that, reasoning by analogy, if its action in other affections stimulates nerve nutrition,

increases the circulation in the part, enhances elimination and promotes normal function, it is likewise true and applicable in this disease and the pathological fact that degenerating nerve tissue must precede sclerosis may explain this action. In any event, speaking *clinically*, that it removes anaesthesia, improves muscular tone, increases the circulation peripherally, relieves pain, strengthens the bladder action and promotes well-being, is the daily observation of those who use it much in this affection. I am constrained to believe where used *alone* the results are *not* permanent, but when it is merely the part of a general system of treatment, its action is enhanced and made permanent.

MASSAGE AND SUSPENSION.

For twelve years I have used massage in tabes and can speak highly of its merits, but to secure lasting benefit the patient must persist in its use for a long time. I personally much prefer the mechanical variety and have supplanted the manual by its use. I know of no *one* agent of which patients speak so highly as of this, and my observation has been that general weakness, lassitude, asthenia, knee weakness, leg tire, cold extremities, muscular hypotonia and digestive disorders, especially constipation, disappear under its use. I have seen the pains disappear during its application. At the start the treatment is made light and gradually the time at the different machines is increased until 30 to 40 minutes of active treatment is given, the machines being run at a rather high rate of speed and the vibration being marked. I am satisfied that massage is a remedy that will materially increase sensation and assist in relieving anaesthesia, and such removal has been noted by Fuller, Schriber, Türk, Langenbach, Graham, Granville, Erb and Ziemssen. The rationale of massage has been entered into by me thoroughly before, (*Mechano-Therapy, Louisville Journal of Medicine and Surgery*), but a short resume here may not be amiss. In these cases where the blood and secretions are thick, the circulation sluggish, the nerve centers torpid, sensibility deficient, the special senses blunted, massage is invaluable. Tissue metabolism and

elimination being impaired, the effect of massage is to stimulate the cell changes and nutrition, and to improve the lymphatic and venous circulations, leading directly to improved excretion.

Massage stimulates the medulla and exercises a beneficial influence over all the vital functions. It is particularly helpful in diseases of degeneration and devitalized conditions.

Suspension no longer creates the same furor that marked its advent some fifteen years ago. The writer recalls, while studying in Paris, the claims then made for it by Prof. Charcot and the French school, and the hopes it held out. That it has more or less fallen into desuetude is true, but in about ten to fifteen per cent. of selected cases it certainly helps the pains and seems to improve the gait. It is only to be considered an adjunct of other systematic treatment.

GYMNASIICS AND EXERCISES.

The main difficulty, handicap and burden of the ataxic's life is the question of locomotion. Allow him the use of his extremities and he may lead a useful and ordinary active life, but when he reaches the stage of canes, crutches and a constant attendant with an invalid's chair, life holds little that is bright and rosy, and just at this time he becomes most despondent, hopeless, introspective, his strength of will, fortitude and hope deserts him and he resigns himself as patiently as he can to the inevitable and awaits the release the grim monster of hour-glass and scythe brings. The essential basic element of exercises and gymnastics is the directing of them purposely by brain action. That is to say, these movements are performed with definite purpose and intent, the attention concentrated upon them, and by so doing the sensori-motor cortex becomes re-educated so that the movements become easier and easier and are finally performed without conscious attention and conscious will power. Fraenkel truly called them "cerebral gymnastics." These movements do not require force and power, but aim at acquiring dexterity and skill and each endeavor must be marked by methodical and

exact execution. The patient usually commences with the simplest of movements and as soon as these can be done well and accurately moves on to more complicated ones. Interest, snap and closely concentrated attention should mark their performance. I have seen patients who could only walk with canes and crutches much benefited and able to lay them aside after several months' exercises in combination with the treatment above outlined. These exercises are not *curative* of locomotor ataxia, as many seem to believe, but serve to overcome the ataxia. Contra indications are the acute cases with much pain and crises; in severe arthropathy and fragile bones; in markedly run down and anaemic patients. Successful use of these exercises demand much time on the physician's part; a careful study of the patient's capacity; the ability to enthuse active co-operation and a thoroughly trained assistant and gymnasium. They should be practiced once or twice daily, but never until fatigued. As ataxia of the lower extremities is much more marked, so it is much more difficult to overcome, because of the supported body weight and the more difficulty in overcoming the upset and disordered equilibrium. I have selected and use the following exercises, which my experience has taught me to be valuable and which have been taken from the plans of Fraenkel, Goldscheider, Leyden, Hirschberg, Dana and others, besides a few of my own added.

PLAN OF TREATMENT.

First Stage Treatment.—*Sanatorium treatment.* Rest in bed late in morning.

9—10. Mechanical massage followed by rest until middle of day, either in bed, on sofa, or in chair.

1—2. Hydrotherapy as per forms suggested, followed by rest.

3—4. General faradism and exercise of muscles, or galvanism to spine as suggested.

7—8. Static electricity. Abundant diet, laxatives as needed; 1. Q. & S. Tonic.

Second Stage Treatment.—Gradually allow patient to

get up; remaining up longer each day; now add the exercises gradually on this plan.

Rest in bed until after breakfast. Massage mechanical, heavy.

Hydrotherapy at midday. Exercises in afternoon, static and galvanic at night (one or the other).

Third Stage Treatment.--Up, going about, attending to business. During week take exercises morning and night, or at sanatorium.

Daily Treatment at Sanatorium. Mechanical massage followed by static electricity three times weekly; galvanic three times weekly; or mechanical massage followed by static electricity twice weekly; half bath twice weekly; galvanic twice weekly.

GYMNASICS AND EXERCISES.

For Hands and Arms. (a) Sit in front of a table; place hands on it; elevate fingers separately, raise hand slightly; extend and flex each finger.

(b) Hands on table, spread fingers, contract them.

(c) Dozen pennies on table; make a stack, taking one at a time.

(d) Spread pennies on table; touch each one slowly with forefinger of each hand.

(e) Board and marbles; put marbles in holes.

(f) "Peg board," put pegs in holes one after another.

(g) Swinging balls of different sizes; oscillate and while moving seize large balls first, smaller ones last.

1. *Legs.* A. Bed exercises for legs. Patient lying on his back in bed.

(a) Flex leg on abdomen and make stepping movement.

(b) Raise leg as a whole, flex, then extend fully.

(c) Ladder climbing, making accurate climbing and stepping movements.

B. Chair exercises. Rise slowly from chair without aid (as soon as possible) then sit slowly.

Sitting in chair, flex legs and make stepping movement.

Raise leg as a whole, flex, then extend fully.

"Pegging," first touch round top short pegs, then flat top taller uprights.

C. Parallel Bar Exercises. Hold to bars and flex legs.

Hold to bars and walk back and forth and sideways.

Make various movements, touching spots, drawing circles, etc.

Obstacle walking.

2. *Drill.* (a) Patients walk heel and toe, body erect, soldierly attitude, a black line twelve inches wide.

(b) Same—walking line six inches wide.

(c) Same—walking on line twelve inches wide and placing foot exactly on large white transverse lines, thus giving soldier's regulation step.

(d) Same—on line six inches wide.

(e) Side stepping, placing feet exactly, first on small transverse lines, then on larger.

(f) Side stepping, placing alternately right and left foot exactly in painted footprints.

(g) Foot on center dot, drawing circles with alternate limbs, especially toes.

(h) Walking zig-zag lines, turning promptly and returning to starting point.

(i) "Right face" exercise, keeping on footprints.

(j) "Left face" exercise, keeping on footprints.

(k) "Setting up" movement (useful and difficult); raise legs as high as possible, flex same; bringing toe down on large transverse white line, using alternate legs and progressing along the line.

(l) Stand feet wide apart.

(m) Stand feet together, count twenty—increase until 100 is reached.

(n) Advance one foot the length of small transverse white line, bring other up.

(o) Balance on one foot.

(p) Obstacle walking (over different things placed on the floor, blocks of wood).

(q) Stair climbing.

(r) Stand, with feet apart, hands on hips, flex limbs, stoop as low as possible, rise slowly.

(s) Walk backward along lines.

(t) Feet apart; raise arms from side until they meet above head; carry them forward and downward, bending the body until the tips of the fingers come near the floor.

(u) Feet apart; hands on hip, make circle with head.

CONCLUSIONS.

The disease cannot be treated by the general practitioner owing to lack of apparatus, time, etc.

Cases must not be considered hopeless; even the most severe can be helped.

Cases must be treated as above outlined and the treatment persisted in, not for weeks but for months.

The sooner a tabetic becomes a philosopher about his disease and determines to *earn* relief, benefit and symptomatic cure the better for him.

Until recovery has taken place the physician must exercise close supervision over the case; and relaxation of treatment is *always* followed by relapse or retrogression.

Even where the ataxia is so great as to require support in walking, or when locomotion is almost impossible, most helpful results may be obtained. I have cases that walk so well that no one could detect anything amiss.

A gain in weight, strength, nerve force, blood, together with a relief of the more or less neurasthenia and phobia that accompanies the disease may be counted upon.

Patients will also gain hope, courage, and become much more content and happy, to say nothing of the comfort that return to business and work ensures.

Where patients are put to bed, sufficient food, rest, etc., should be followed until they gain in blood count, flesh and strength.

Improvement under this system is usually felt from the first and varies in its rapidity depending on the intelligence, patience and persistence of the patient, the general health and the stage of the disease. The results of exercise and treatment are permanent if general health remains good. Cases of slow progress toward recovery are the best, as they tend less toward relapse, pains, etc.

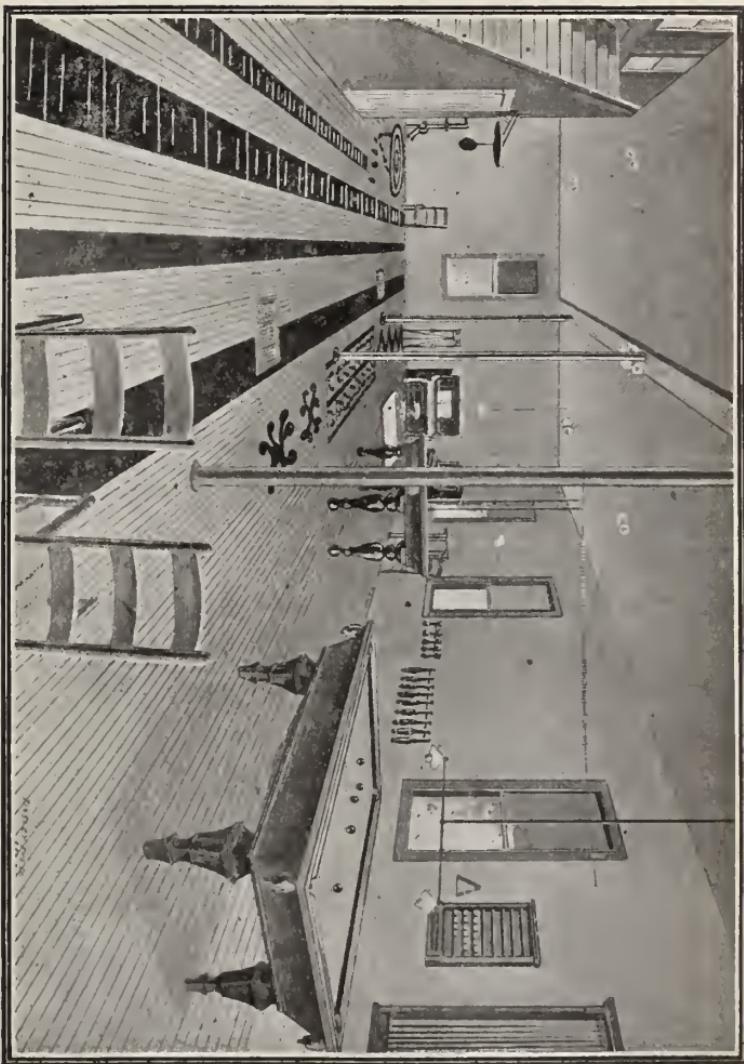
False hopes of speedy cure should not be held out to the patient but he be made to plainly understand that, while his disease is a very grave one, he is not a hopeless sufferer, and that by patient, steady and conscientious *work on his part*, constant supervision, direction and guidance on his physician's *part*, relief from suffering, amelioration of symptoms and arrest of the disease will ensue. There are, in my opinion, no class of sufferers so appreciative of relief as those now under consideration, and sympathy, patience, kindness and the best efforts of the physician should be directed toward sustaining them in the hour of their affliction. They should be imbued with the fortitude, patience and strength that are best attributes of humanity, while receiving the most advanced and scientific treatment that the profession can afford.

I am more and more impressed each day with the necessity of an extended and exhaustive examination of every case, carrying it as far as sputum, blood and urine. Resulting benefit and more accurate and satisfactory work will be done if this is followed out, and indications for treatment found which were never suspected. Persistent treatment is absolutely essential, and unless the patient is willing to undergo a thorough course I am not desirous of taking his or her case. They must be counseled to patience and to endeavor in every way to assist the physician. I never allow patients to take baths away from my establishment. I have tried this and failed. It seems impossible for them to take properly the simplest bath. The temptation to take what to them is most agreeable, regardless of the results, and the lack of precision in duration, temperature, rest, etc., will in the end accrue for bad rather than for good. I have and make rules for these cases and insist upon patients following them out, and it is an essential factor of the treatment.

You may have considered me a pessimist in the matter of drug taking, but I am not. Drugs have their place and uses, and I do not hesitate to use them at such times and places; but in chronic diseases, and especially in nervous diseases, their *use alone*, is nearly, in my opinion useless.

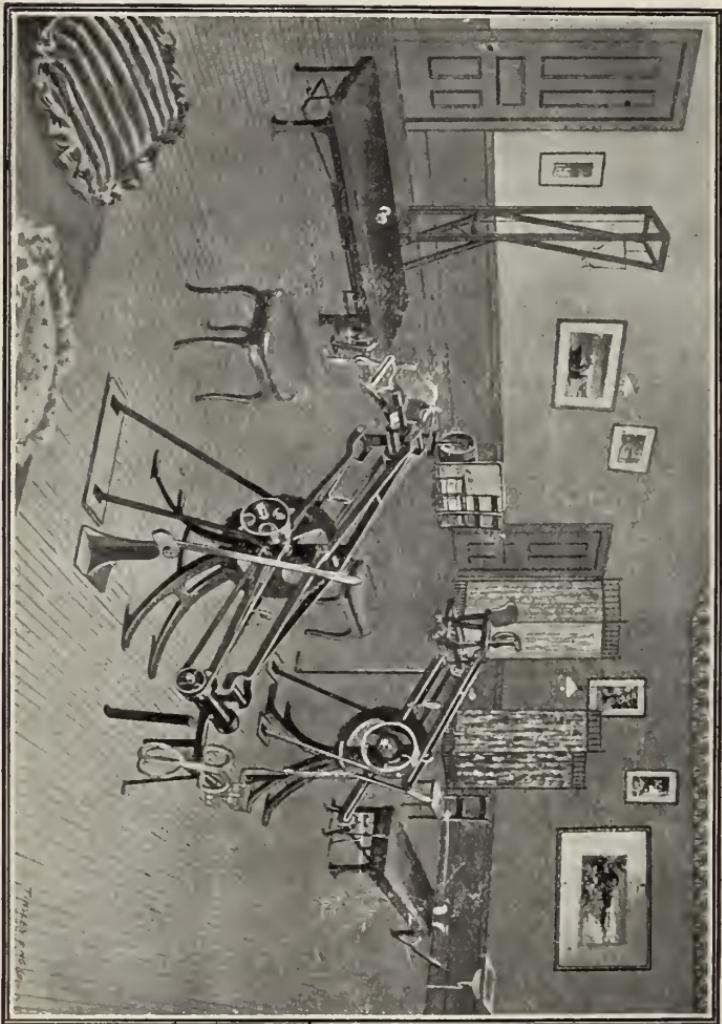
We have no specifics for this disease, and the sooner the overtaxed stomach is relieved the better. Iron often fails in anaemia for the simple reason that it cannot be assimilated. Yet withdrawal, the use of easily digested food, and hydriatic measures soon place the patient in a position to assimilate and utilize this drug.

The position here taken is, I believe, the true position the profession will soon take, and it is only justice to say that the criticism indulged in, is the outgrowth of observation and the result of experience, and is stated with the firmness of conscientious belief.

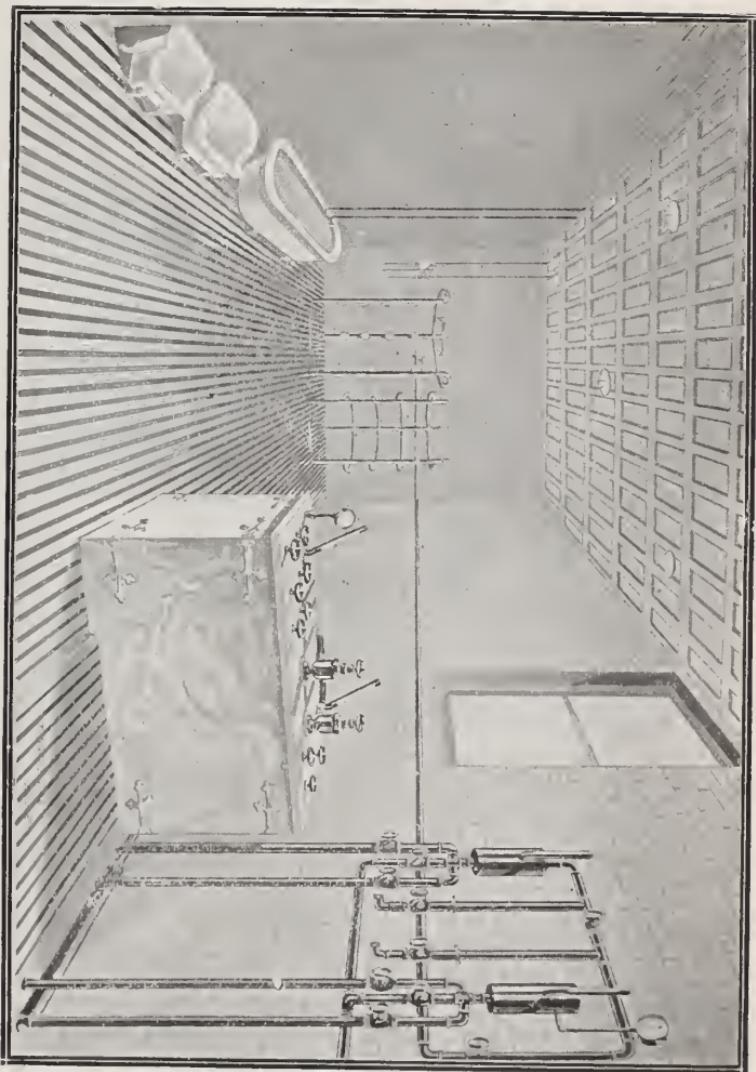


GYMNASIUM.

MASSAGE APPARATUS.



BATH ROOM



A NEURO-PSYCHOLOGIST'S PLEA FOR BYRON

By CHARLES HAMILTON HUGHES, M.D.,
ST. LOUIS.

A DAILY newspaper of this city is certainly doing the youth of this land and the mature as well, and old men too, who do not take time to ponder on the literature of the past, a great service in publishing, regularly, extracts from the great poets. These grand poetic masterpieces from other days impress the higher thought of their day upon our money chasing, gold-fevered age, likely to be impressionless without such reminiscent republications as this enterprising newspaper has undertaken.

Byron's Waterloo from Childe Harold is one of the poems reproduced and to which and to whose author we now refer. This great poem of Byron's with all of the first canto of Childe Harold was written when the author was in his twenty-fourth or twenty-fifth year. Its every line betrays magnificent mental power and heroic exaltation of spirit. No intimation of that degeneracy with which this unfortunate child of genius was subsequently afflicted, appears up to this date in Lord Byron's career.

The real truth about Byron's life harshly misjudged by his moral critics, appears to modern neurological science to be that he became intellectually overwrought and instinctively sought the reaction of reckless psychical and physical dissipation for relief from the pangs of cerebrasthenic brain fag and general nervous exhaustion. He needed the neurologist and brain rest, but the neurologist was not an evolution in Byron's day and if he had been, it is doubtful if Byron had consulted one. Even in our day they who

need the neurologist, like those who need the alienist so badly are not likely to consult these necessary medical counsellors and physicians of the strenuous life. They need the neurologist often, yet walk in darkness. Though the light shineth therein they comprehend it not. Neither do the medical advisers of our great men, their family physicians, always see the need of neurological treatment for their brain-broken patients and advise them accordingly and in time to avert calamity. Something similar might be said in defence of the change of character of Shelley, De Quincey, Poe and other great literateurs who sought surcease of overbrain strain, like the cerebral overtax of Byron, in opium, alcoholic or intellectual inebriety which his literary critics erroneously attributed to prosperity, depravity and opportunity for indulgence.

An exhausted brain impairs the trained inhibitions of the higher centers of the cortex, disciplined into great control during educational evolution, and brings on mental irregularity of action, allowing renewed activity to latent aptitudes of inherent cerebro-nervous instability and propensities to go wrong, long since suppressed and subdued, in the normally trained restraint of generations in others not neurotically deteriorated.

No one can tell the inherent latent propensity of a psychic neurone or an aggregation of them grouped into a psychic center of the brain, nor how it or they will act when the disease of overstrain loosens the habitual repression of successive generations of educational restraint and repression. The aptitudes of barbarism reappear in Indians after years of apparent obliteration, as they do in the negro, who is so much nearer in years to his native barbarism in this country than is his longer civilized white brother.

Instability of character resulting from brains overwrought have been too often unjustly blamed in our men of great works and action, who, if they had known themselves as they may know themselves, would have sought the timely aid of friendly neurological relief before irreparable damage is wrought by overtax of brain and overthrow of moral and mental power.

The world, though it may not yet realize it, is becoming in this modern strenuous life, daily more and more dependent on enlightened medicine for counsel in correct living.

In Byron's day the nervous system was not known as it is now. The brain, the mind's substratum, the minute microscopic neurones of its gray cortex and their relation to thought, emotion and will, were not then known as they are now to science.

A sensorious, clerical, unphysiological psychology was then in the ascendant. The lunatic was still enchain'd in the dungeons of Bictére and elsewhere and regarded as a devil-possessed incarnate fiend, more or less blameable for his lunacy. The erratic action of a brain gone wrong from overtax was not then regarded as a just plea, as it so often is now, by courts and all intelligent men in extenuation of a worthy brain and mind gone wrong from overtax and overstrain while working even in right directions.

SELECTIONS.

CLINICAL NEUROLOGY.

ARACHNITIS AND SPINAL HYPERALGESIA.—At a recent meeting of the Academy of Medicine of Paris MM. Chipault and Lefur read the clinical history of an interesting case of a man who, without any appreciable affection of either the nervous system or of his viscera, suffered atrocious abdominal pains for years. During these paroxysms of pain, which were most intense at the navel, the body was strongly flexed, and the abdominal muscles contracted violently. The hyperalgesic region corresponded to the area of distribution of the eighth, ninth and tenth dorsal ribs. Hypodermic injections having given no good results, spinal injections were tried, and they also failed. It was now decided to cut the intercostal nerves of the area of greatest pain, and this was done without any benefit. The posterior laminæ of the eighth, ninth and tenth dorsal vertebræ were then incised, and the posterior roots of the corresponding spinal nerves cut. When the spinal cord was exposed there was found a localized patch of arachnitis of some standing. The result was eminently satisfactory. At the end of the month the hyperalgesic zone had disappeared, and gradually the severity of the paroxysms of pain diminished until they finally ceased.—*Medical Press.*

PRESSURE NARCOSIS.—From the fact that ancient anatomists referred to the carotid artery as *arteria soporifera* and that the Russians still call it *somnia arteria*, the artery of sleep, it appears that it has long been known that, by compression of the carotids, a state of anesthesia may be produced. It is not surprising therefore to find that among

the natives of Java, Madura and Bauka, a procedure for obtaining narcosis is in extensive use under the name *tarik urattidor*, or compression of the soporific vessels. The anesthetizer sits in front of the patient and grasps the patient's neck with the fingers, the thumbs placed back of, and a little below the angle of the lower jaw, compresses the internal carotid artery against the spinal column. Complete loss of sensibility and of consciousness is produced, with occasional more or less pronounced clonic convulsions, but without vomiting, or incontinence of urine or of feces. L. Steiner points out the absolute harmlessness of the operation and the rapidity with which sleep may be obtained and consciousness regained, and urges that it be given a place in surgery. "Javanese narcosis" is susceptible of being applied to the treatment of cephalalgia, vertigo and insomnia, as well as in minor surgery.—*American Medicine*, April 19, 1902.

A CASE OF TEMPERATURE CRISIS IN TABES DORSALIS.—Oppler, (*Berlin Klin. Wochenschrift*, No. 15, 1902).—Fever crises are sufficiently rare in tabes to be worthy of mention. Pel published a case in 1899, and he was not able to find, up to that time, a like case in the literature. The case is as follows: A man, forty-one years old, had very marked attacks of tabetic gastric crises, during which the prostration was very great. These attacks were repeated at intervals of six to eight weeks; at no time during them, or in the period between them, was there any rise of temperature. The usual tabetic symptoms became more pronounced, but the gastric crises changed in character. The prostration and weakness remained, but instead of the gastric symptoms there was a marked rise in temperature. The evening temperature was 40.4° C. in the axilla, and the morning temperature 39.2° C. Attacks took place at regular intervals, while the gastric symptoms completely disappeared. It was found that phenacetin, in fifteen-grain doses, could control the fever if taken at the beginning of an attack. In all of these febrile crises careful examination of the spleen and other organs, for malaria,

etc., was made, but always with a negative result. Whether they were caused by a central irritation of the fever center, or by the resorption of toxic materials caused by the suppression of the gastric crises is a question which further observation must determine.—Excerpted by Schwab, *Inter-state Medical Journal*, June, '02.

NERVOUS JAUNDICE.—* * This form of nervous jaundice * * * embodies a very old idea in medical history, and references to it, even in non-medical writers, are not uncommon. Shakespeare said in "Troilus and Cressida" (act one, scene three):

"What grief hath set the jaundice on your cheeks?"

At the meeting of the New York Academy of Medicine, February 6, 1902, Dr. S. J. Meltzer pointed out in a paper on the influence of inhibition, how complex is the nervous mechanism of the biliary system and how easy it is disarranged. The presence of food in the duodenum causes a reflex opening of the ampulla of Vater, through which the biliary and pancreatic secretions are evacuated into the intestine. This reflex does not suffice, however, to bring the bile to the intestine, for there must be besides an active contraction of the gall-bladder and a stimulation of the secretory function of the liver cells. The splanchnic fibers of the vagus distributed to the intestinal walls are known to provide the inhibitory nerve supply to the muscles of Vater's papilla. The vagus has an inhibitory set of fibers for practically all organs to which it is supplied. In neurotic patients especially, the inhibitory functions are prone to be manifest, because of the irritative condition of all nerves. It is usually in such individuals that disturbances of heart rhythm from inhibitory effects become most noticeable.

It would not be surprising, then, if inhibitory nervous jaundice, due to failure of the ampulla of Vater to open at the proper time, should occur more frequently than is at present supposed. Where previous irritative conditions of the intestine have been noted, this may account for as many cases of so-called catarrhal jaundice as are attributed

to the actual spread of a presumed catarrhal inflammatory process from the intestine into the biliary ducts. It is not improbable that the cases of jaundice accompanied by slight biliary colic in which the condition is relieved after a time, without the appearance of a gallstone in the stools, may belong in this category of ailments. Even in cases where the manipulation suggested by Gerhardt is successful and massage over the fundus of the gall-bladder relieves the stasis in the biliary tract, it may still be true that nervous and not catarrhal jaundice is present. The massage may overcome the inhibitory closure of the mouth of the ampulla and the bile ducts may remain open when once the obstruction is relieved. It would seem, then, that in many cases now classed as catarrhal jaundice and treated as such, treatment for the general nervous condition is indicated, especially the use of antispasmodic remedies to relax the reflex spasm set up by irritation of the intestines. The use of purgatives, now so commonly recommended, would in these cases be especially contra-indicated. The ideas involved in this claim for the existence of a purely nervous jaundice seem to be of a practical character that commends them to further study and careful application in select cases.—Editorial in *Journal American Medical Association*.

CHAPPA.—Edward H. Read (*The Journal of Tropical Medicine*) reports four cases of a disease which he has not seen described in any text-book, but which is called "chappa" by the Popo people in the western district of the colony of Lagos. It begins with severe pains in limbs, muscles, and joints, which after a few months decrease and give way to swelling. At the same time, nodules develop in different parts of the body, which, without abscess formation, are exposed by ulceration of the skin over them. They are usually multiple, are circular or oval in shape, with a fatty-looking base, and about the size of a pigeon's egg. The nodules are sometimes absorbed without proceeding to ulceration. The disease, after a time, attacks the bones, and the joints may become totally disorganized.
—*Medical Record*.

A CASE OF CERVICAL AND BULBAR TABES WITH NECROPSY.—(Abstract by William G. Spiller, M.D., and S. Solis Cohen, M. D.) A case in which some of the most important symptoms were: Nocturnal incontinence of urine beginning in 1872, drooping of the right upper lid which could be overcome voluntarily, variation in the size of the pupils from time to time, paresis of the facial muscles, difficulty of mastication and deglutition, atrophy of the tongue, disturbance of sensation, especially for temperature and pain; sharp pains in the abdominal region and lower limbs, grayness of the optic nerves and loss of reaction of the irides to light and in accommodation. Ataxia was not present and the knee-jerks were preserved. The posterior roots in the lower cervical and upper thoracic region and portions of several cranial nerves were degenerated. A clinical history of the case was published in 1889. Death occurred in 1900. A discussion of the cervical and bulbar forms of tabes was given, as very few cases with necropsy are found in the literature. Confirmatory cases were noted from personal observation in the experience of Doctors Mills, Collins, Sailer, Spiller and others of high cervical tabes.—*American Neurological Association.*

BABINSKI'S SIGN.—H. Schneider has found that, while it is practically true, nevertheless the assumption that the presence of Babinski's phenomenon indicates a lesion of the pyramidal tracts is open to certain theoretical objections. The normal response to stimulation of the sole of the foot consists of two reflexes having different origins. One of these, plantar flexion on slight stimulation, is a cortical reflex, while the other, dorsal flexion of the toes, with associated movement of the leg, is evoked by strong stimuli and is of spinal origin. Babinski's sign is present when slight irritation is sufficient to produce dorsal flexion without the occurrence of plantar flexion, and is always due to general increase in reflex excitability. It may be caused in two ways: first, through a break in the pyramidal tracts, whereby the cerebral reflexes are cut off (which is the true Babinski), or, secondly, in conditions of increased spinal

activity (*e. g.* strychnine poisoning), or of decreased cerebral excitability (stupor), when the dynamic excess of the spinal response suppresses the cerebral reflex and simulates the true condition.—*Berliner klinische Wochenschrift* in *Kansas City Med. Ind. Lan.*

AUDITORY NERVE DEAFNESS.—The *Medical Press and Circular* notes with approbation the recent discussion of Dr. Dundas Grant's paper on the diagnosis and treatment of various forms of deafness before the British Laryngological and Otological Association. After remarking that British otologists have of recent years riveted their attention on the sequellae and treatment of suppurative middle ear disease, remarking that non-suppurative and internal ear disease have received too little of the attention, it justly observes:

The auditory nerve is an extremely sensitive part of the nervous system, and it is not surprising that it should suffer, as the enumeration of the varieties of nerve-deafness plainly shows, in the course of various constitutional disturbances. We note among other forms the anemic, congestive, hemorrhagic, hysterical, parotitic, syphilitic, senile, "occupation," toxic, neo-marital, and neurasthenic. It is obvious that without discriminating diagnosis of the varieties the treatment of nerve-deafness as such cannot be rationally carried out.—*Medical Press and Circular*.

MAINE'S JUMPING FRENCHMEN.—On the northern frontier of Maine, between the United States and Canada, there exists a class of people locally known as "jumpers." Instead of imitating actions or repeating words, the sufferers from this condition are characterized by their inability to disobey any sudden, sharp order given them. If called on to jump, they will immediately execute this act. The condition has many resemblances to the great dancing epidemics of the middle ages, and almost seems like a relic of them. Like them, it spreads like contagion; and its manifestations are similarly the result of irresistible impulses, and are displayed among a class emotionally unstable and destitute of the self-control which is necessary in a well-

ordered community. These "jumpers" seem to have no control over their nerves or muscles when taken off their guard or startled in any way, and while there is a certain drollery at times in their antics, the humorous element is, to thoughtful persons, overshadowed by the tragic possibilities. A "jumper" is liable to kill a man at an instant's notice, and be no more responsible for his act than would be a mad bull or a runaway locomotive.—*St. Louis Medical Review* in *Medical Record*, April 26th, 1902.

This information is late in coming. The "jumpers" were described in Beard and Hammond's first editions of their books over thirty years ago and have been recorded in a hundred books since.

TWO CASES OF ADDISON'S DISEASE WITH A SPECIAL CONSIDERATION OF THE BLOOD.—Hamel (*Deutsch Archiv. f. Clin. Med.*, B. 71, H. 2-3) reports two cases of this disease. The first, a man of thirty, had never been seriously sick. Five months before admission he noticed emaciation, loss of power, loss of appetite, and five weeks before admission gradual darkening of the skin. He was emaciated, very feeble, deeply bronzed, with pigmentation of the mucous membranes. He died of exhaustion, and cheesy degeneration of the adrenal bodies were found. The second case, a man of twenty, had noticed increasing feebleness for about six weeks, and for four weeks before admission, gradual bronzing of the skin. There were evidences of tuberculosis of the right apex. The skin was bronzed, and there were bronze patches upon the mucous membranes. He improved for a time, and the bronzing grew less. The patient is still under observation. Examination of the blood in these cases showed in the first case, 4,200,000 reds and a specific gravity of 1055. *There was no alteration in the morphology of the blood*, and this condition remained until the end. The differential count of the white cells showed a relative decrease in the polymorphonuclear leucocytes. In the second case the number of red cells was 4,400,000, the specific gravity of the blood 1056, and the morphology of the blood and the differential count

were practically the same as in the other case. *Aside from the lymphocytosis the blood must therefore be regarded as normal.* To explain the apparent anemia we are therefore compelled to assume the existence of a quantitative anemia, that is a reduction of the total quantity of the blood. Hamel concludes that anemia is an essential and inseparable symptom of Addison's disease, and that the poisons accumulated in the blood do not affect its morphology, and therefore the examination of single drops gives normal results. This is especially true of tuberculosis of the adrenals. In cases of carcinoma however, some morphological changes in the blood should be expected. It is possible that the differential diagnosis between tuberculosis and carcinoma could be based upon this fact.—Excerpt by J. S. in *Philadelphia Medical Journal*.

NEUROPHYSIOLOGY.

THE NERVOUS SYSTEM AND THE CIRCULATION IN THE DEFENSE OF THE ORGANISM.—J. Grasset (Montpellier) *Gazette Med. de Paris*, March 8. "Apropos des opérées du Dr. Doyen: le rôle respectif du syst. nerv. et de l'app. circ. dans la défense de l'organisme." Grasset remarks that Doyen's operation on the united twins is a wonderful demonstration *in vivo* of the important part played by the nervous system in the defense of the organism, which has been demonstrated only experimentally before. Animals have been fastened together in such a way that the blood from one passed into the circulation of the other, and in the united twins the blood circulated freely between them. They had the same blood, the same corpuscles, and the tuberculous infection of one proved the inevitable infection of both. The blood carried the tubercle bacillus and its toxins indiscriminately throughout the body of each of the twins. But the reaction was different in each, and was evidently due to the nervous system, which was entirely distinct in each. These facts demonstrate anew how marked and well defined is the individuality of every living being.

Even when united or grouped in a colony with a common circulation, each constitutes an independent and distinct entity. Each has its own individuality in its defense against disease, even when sharing with others the same internal medium.—*Journal American Medical Association*, April 5th.

MECHANICAL INFLUENCE OF THE RESPIRATION AND CIRCULATION UPON THE ACTIVITY OF THE BODY ORGANS.—Buttersack points out the mechanical influence of the abdominal muscles upon the activity of the abdominal organs, and shows how such activity is markedly lessened when the abdominal muscles are atrophied from non-use and disease. The movement of such muscles is directly influenced by respiration. Hence the activity of the abdominal organs is more or less dependent upon the force and character of the respiration. Respiration produces therefore a sort of automatic massage, which is an important factor in the maintenance of the physiological processes of the body. The favorable influence of massage upon pleural and peritoneal effusions has been definitely proven; that respiration in a certain measure produces such a massage cannot be denied, and its therapeutical employment should not be neglected. The mechanical effect of the circulation upon the activity of the body organs is an important factor in the maintenance and intensity of their physiological processes. The walls of the blood vessels being elastic, the motion of the circulating blood is transmitted in a series of impulses to the surrounding tissues and organs. Such impulses act as an excitant to cell activity. The influences of this mechanism when operative within normal limits cannot fail to be beneficial; when, however, such limits are altered pathological effects result.—*Berliner klinische Wochenschrift*, March 31, 1902.

The influence of these functions on the heart and brain might well have been included in this essay.—ED.

RECENT EXPERIMENTAL NEURAL STUDIES.—Langley of London has performed a series of physiologic experiments

consisting of poisoning with nicotine certain of the lower animals and of direct application of nicotine to the sympathetic nerve ganglia by injection and otherwise. By testing with electricity he has found that nervous impulses, whether motor, sensory, secretory or vaso-motor, were not transmitted through ganglion cells thus nicotinized, whereas the conductivity of fibers was not impaired. T. Lauder Brunton (*London Lancet*) has observed that the pupil in toxic amblyopia gives a reaction just the reverse of the Argyll-Robertson pupil. The excursion due to light was swift and wide, that to accommodation was lost.—J. W. S., in Kansas City *Medical Index Lancet*.

NEUROPATHOLOGY.

PONS TUMOR WITH DEGENERATION IN THE POSTERIOR COLUMNS OF THE CORD.—Laslett reports a negro, aged 36 years, who suffered from headache, vomiting and pain in the abdomen for a week. He was dull and apathetic; tongue dry and thickly coated with white fur; temperature was 102.6° F.; pulse soft and rapid; heart sounds clear and without murmur. No paralysis; sensation normal. The patient died. At the autopsy an elongated glioma was discovered in the pons. Microscopical examination of the spinal cord showed symmetrical degeneration of the intraspinal portion of the posterior roots of the first cervical nerves, and scattered symmetrical degeneration in the columns of Goll and Burdach.—Abstracted from excerpt of J. M. S. in *Philadelphia Medical Journal*.

THE PATHOGENESIS OF SPINAL CURVATURE IN SYRINGOMYELIA.—S. Nablandov relates the facts revealed at the autopsy of a patient who died of syringomyelia with spinal curvature. All the cervical and dorsal vertebrae were remarkably soft, having lost their compactness, and offering very little resistance to the saw, while all the other vertebrae were normal. The great softness of the cervical and dorsal vertebrae, especially when contrasted with the lum-

bar vertebræ, clearly proved that this was a case of deep nutritive changes of the osseous tissue.—*Russhi Arkhiv.* in *Medical Record.*

BLOOD PARASITE IN EPILEPSY.—Magnan has recently found a microorganism in seventy cases of epilepsy that he has recently examined. These organisms were usually found in chains resembling diplococci.—Abstracted from *Medical Age.*

NEUROTHERAPY.

IN GASTRALGIA AND ITS TREATMENT for the relief of the pain, Professor Boone, College of Physicians and Surgeons, St. Louis, finds one Antikamnia and Heroin Tablet, 5 grains Antikamnia and 1-12 grain Heroin Hydrochloride given as required, not only relieves the pain, but prevents its recurrence, much more satisfactorily than either heroin or morphine alone.

AGURIN AS A DIURETIC.—Among the pure diuretics theobromine has been extensively employed in late years in the form of the salicylate. This preparation, however, is not free from irritating effect upon the gastro-intestinal tract owing to the contained salicylic acid, and for this reason Dr. Impens of Brussels, after considerable experimentation succeeded in producing a double salt of theobromine sodium and acetate of sodium, to which the name agurin has been given. This preparation has been made the subject of extensive clinical studies in the clinics of Professors von Litten of Berlin, Destree of Brussels, Buchwald of Breslau, and von Ziemssen of Munich. The results of these tests have shown that in the dropsy of cardiac disease, agurin is a prompt and reliable diuretic, free from any irritating effects upon the digestive organs or kidneys, while in some cases of ascites due to cirrhosis of the liver and in cases of edema from chronic interstitial nephritis, without marked destruction of the renal epithe-

lum, the drug acted efficiently. The diuretic value of agurin is further confirmed by conclusions presented by Dr. A. C. Barnes (*Medical Record*, May 24, 1902) in a discussion before the American Therapeutic Society, according to which the acetates form double salts with theobromine which are soluble and are powerful diuretics, of which agurin is a type.

THE TREATMENT OF NEURALGIA WITH CASTOR OIL.—The *Colorado Medical Journal*, December, 1901, records: F. E. Waxham reports several cases in which this remedy, given in doses of from one to two ounces three or four times daily, brought about a speedy cure.

THE USE OF METHYLENE BLUE AS A SEDATIVE by D. E. Hughes, M.D., and Elizabeth Lovelace, M.D., of Philadelphia. (Reprinted from the *Philadelphia Medical Journal* March 22d, 1902). The use of methylene blue in the diagnosis of nephritis and in distinguishing the different forms of this disease has been carefully studied by several clinicians. Cabot and McGirr, in an article in the *St. Paul Medical Journal* for December, 1898, report a series of valuable observations upon the subject. Ehrlich and Guttmann ascribed to methylene blue a chemical affinity for the axis-cylinder of nerves, and reasoned from this that it must exert some definite action upon the nervous system, and proposed its use as a sedative in nervous or mental excitement. But Combermarle's investigations proved that the chemical affinity existed only for dead tissue. Bourge demonstrated its power as a vaso-constrictor, and no doubt it is to this property that it owes any sedative action it may have. Bodoni, working in Morsilli's clinic, while giving the drug to differentiate the forms of nephritis, observed that each patient was depressed while taking it, and proposed its use in mania, puerperal mania, and the excited states of paretic dementia. He accordingly tested it in fourteen cases, of which he gives a detailed report in the *Klinisch-Therapeutische Wochenschrift*, No. 21, 1899. His cases were mania with frenzy, having a basis of degenera-

tion, two cases; mania with fury, mania simple, mania periodic, mania congestive (alcoholic) each one case; and mania chronic, two cases; also melancholia periodic with maniacal outbreaks, paranoia with delirium, dementia secondary, the insanity of hystero-epilepsy and puerperal mania, each two cases. Each patient was so satisfactorily subdued by it that Bodoni proposed to place methylene blue in the list of sedatives with trional, sulphonal and chloralamid and like drugs. The drug has now been used in twenty-two cases in the insane and detention wards of the Philadelphia Hospital, and while the results were not so uniformly good as in the cases reported by Bodoni, it has led to the hope that a greater number of trials may demonstrate that in particular cases the value of the medicament as a sedative may be established.

ECTHOL is an American preparation made from a mixture of the fluid extract of Thuja and Echinacea *angustifolia*. The latter is a plant belonging to the natural order Compositæ, which grows in North America. The fresh root of this plant is in high favor with the Indians as an antidote against the bites of serpents. Dr. Stinson found that this plant promotes the flow of saliva, is a mild and inoffensive antiseptic, and above all, an aphrodisiac. It is employed in malaria, in typhoid and in diseases of the stomach as well as locally in the form of an aqueous solution of the fluid extract as an aphrodisiac. In addition, it may be given internally in the form of a fluid extract or a tincture. Ecthol is said to be the most powerful antagonist of suppuration. According to Meyer this substance has a powerful effect in toxæmias. Parker, Webster, Snyder and Russell have shown that it is of great service in infectious diseases, in septic wounds and in the bites of serpents, as well as in chronic catarrhs.—*New York Medical Journal*, March 15th, 1902.

HEDONAL IN INSOMNIA.—Dr. H. Schoenfeld reports the histories of a series of cases in which Hedonal was employed to advantage. It is commonly given in doses of

from 15 to 45 grains in mild cases of agrypnia. If there is pain, associated with insomnia, its action is not reliable and must be combined with a mild analgesic. The sleep obtained is uninterrupted, quiet and dreamless, and lasts for several hours. The observations here quoted were made in von Ziemssen's clinic at Munich, and represent a large variety of cases of insomnia. No serious by-effects or after-effects were noted.—*Journal of Nervous and Mental Diseases*, February, 1902.

EUCALYPTUS FOR DIABETES.—A Glasgow physician, A. C. Faulds, claims to have cured fifteen cases of diabetes out of forty-six by using an infusion of dried eucalyptus leaves. It is said that his experiments, which were prompted by his discovery that New Zealand natives used such an infusion, instead of the eucalyptus oil of commerce, will be repeated on a larger scale in the London hospitals.

CLINICAL PSYCHIATRY.

INDICAN ACETONE AND DIACETIC ACID IN THE PSYCHOSES.—Dr. I. H. Coriat finds (*American Journal of Insanity*, April, 1902) that diminished indican excretion is parallel with katatonic excitement, the involutional melancholias, the exhilarated forms of paretic dementia, excited cases of dementia praecox and in the manic phases of the manic-depressive psychoses. This class of cases can be grouped under hyperkinetic states; that is conditions characterized by excitement, agitation, exhilaration or hyperactivity. Acetone was found in all the groups except epileptic stupor. Diacetic acid was found in melancholia, akinetic conditions of dementia praecox and paretic dementia, and in alcoholic hallucinosis associated with fear. Dr. Coriat, however, was unable to detect any relation of large amounts of acetone in cases associated with fear as pointed out by Marre. Diacetic acid in Dr. Coriat's opinion, is an intermediate product in the occidation of beta-oxybutyric acid and readily decomposes into acetone. The condition of

acidosis, as Naunyn designates, the acid state of diabetics, presents states of fear and often the condition underlying the stupor produced by it, has depressional conceptions. The opinion of C. K. Mills and others as to the relations of diabetic states to nerve overstrain is borne out by these results of Dr. Coriat.

HALLUCINATIONS AND VISCERAL DISEASE.—Dr. H. Head discusses (*Brain*, 1901) the hallucinations which occur under certain conditions in sane persons suffering from visceral disease. In visual hallucinations the vision appears in the absence of visual stimuli and assumes the form of a figure misty in outline and draped or wrapped in a sheet or shawl, while at times it consists of a face only. From this the transition to a pair of eyes looking through the bars of the bed is easy. The color of the image is always simple white, gray or black, never even normally tinted. Sex is usually indistinct. The figure or face is single, usually stationary or glides along. It persists for a variable length of time and then disappears. Hallucinations at first are always accompanied by the physical signs of fear as sweating, goose-skin, heavy palpitation or the like, but patients soon become tolerant and do not mind the figure. The feeling which accompanies hallucinations of visions varies but is always depressed when the figure is dark in color. The mood is frequently depressed. Auditory hallucinations occur in the absence of external noise, very markedly in intensity and are never heard as articulate words but as noises of more or less intensity or simple musical sounds. The feelings accompanying them vary widely but are usually unpleasant. Olfactory hallucinations are always unpleasant, are driven away by strong actual odors, occur in the day time and principally in connection with food. Nausea is not infrequent and vomiting may also occur. Sweating, which is sometimes present is an associated phenomenon of nausea and has not as a rule any relation to fear.

A SUMMARY OF WORK done at the Norristown, N.J.,

State Hospital for the Insane to Sept. 30th, 1901, gives:

Brains weighing 45 to 50 oz., 2; 40 to 45 oz., 6; 35 to 40 oz., 3. Heaviest brain 48 oz., woman, melancholia chronic (No. 74); lightest, weighing $26\frac{1}{2}$ oz., woman, epileptic imbecility (No. 79). Cystic degeneration of choroid plexuses, 10. Right side more marked involvement than left. Granularity of ependyma of ventricles, 3. Chronic conditions, as thickened membranes, atheroma of blood vessels, atrophy of convolutions, impaired and increased consistency were present in nearly all cases examined.

Heart—Largest heart was found in a case of melancholia acute (No. 84) and weighed $13\frac{1}{2}$ oz. Fatty and fibrous, age 65 years. Smallest, weighed 3 oz.; taken from a case of melancholia acute (No. 89), brown atrophy, valvulitis chronic.

Chronic valvulitis present in fourteen instances, mitral aortic and tricuspid being involved in about the same proportion, but not with the same severity. Fenestration of aortic cusps, 4; pulmonary, 1. One instance of aneurysmal dilatation of aortic cusp. Degeneration of aortic and coronary vessels varying in degree from slight sclerosis to calcareous infiltration, accompany nearly all valvular lesions; myocardial changes in most instances.

Lungs—Tubercular infiltration of lung, upper lobe, weight 24 oz., mania chronic (No. 77); apex, 16 oz., melancholia acute (No. 89); apices, both lungs, weight of left 15 oz., right 14 oz., melancholia acute (No. 81); middle lobe, weight $7\frac{1}{4}$ oz., dementia chronic (No. 86); apex, left, dementia senile (No. 88); apex, left, weight 10 oz., dementia senile (No. 85); right, lower and middle lobes, weight 30 oz., epilepsy (No. 82); both lungs miliary, weight, left $19\frac{1}{2}$, right 16 oz., imbecility (No. 79); heaviest, weight 30 oz. (No. 82); other causes than tubercular infiltration, heaviest 38 oz., pneumonia, melancholia chronic (No. 72).

Spleen—Heaviest 6 oz., miliary tuberculosis, melancholia acute (No. 81); smallest spleens weighed 1 oz. each, melancholia chronic, two cases. The average weight of spleens examined was less than five ounces.

Kidneys—The heaviest removed from No. 80, mania

chronic, left, weight 5 oz.; right, 7 oz., interstitial changes; cystic. Lightest, left $1\frac{1}{2}$, right $3\frac{1}{4}$. dementia senile; slightly cystic. Average weight $3\frac{1}{2}$ oz., No. 84, melancholia acute, renal calculus in pelvis. Seven instances of cystic degeneration, visible macroscopically either in one or both kidneys.

Livers--Largest, weight $57\frac{1}{2}$ oz.; fatty degeneration and congestion, epilepsy, No. 82, age 32 years, cause of death pulmonary tuberculosis. Next in size weighs 57 oz., fatty degeneration and congestion, cloudy swelling, melancholia chronic, No. 72, age 51 years, cause of death, double lobar pneumonia. Smallest weighed 21 oz., taken from a case of melancholia acute, No. 89. Cirrhotic and congested, slightly fatty. Inanition.

Gall Stones--In only two cases were gall stones present. No. 72, melancholia chronic, 60 small faceted stones and four large stones.

In the preparation of Table VII a summary of the microscopical and macroscopical lesions has been given. Microscopical examinations have been made of tissues from the autopsies of past year and a report of results appended to the regular autopsy records.

Several interesting specimens have been added to the Museum during the year, but owing to the lack of space and care necessary for their preservation only the most interesting have been retained.

Table VIII includes the number of primary examinations of urine made during the year. Three reliable tests for albumin, nitric acid, potassium ferro-cyanide, trichloracetic acid, and in most instances two tests for sugar, Fehling and phenyl-hydrazin, have been used to determine the presence or absence of the above mentioned products. Quantitative and qualitative estimations of sugar and albumin have been made as many times as was necessary to note the progress of each case. Estimation of chlorides, phosphates, sulphates, urea, etc., have been made in all instances where there were indications for so doing. In those cases where the ordinary tests failed to demonstrate albumin, and at the same time casts were present in the

microscopical findings, it has been the custom at the laboratory to employ the trichloracetic acid test, and during the several years of work in urinalyses the test has never failed to demonstrate the presence of albumin in the above mentioned cases. Included among the cases of the past year were thirty-nine instances of this kind. Trichloracetic acid is also employed in the regular examinations for albumin, always, however, in conjunction with other tests; in only eighteen of the examinations made during the year was albumin present without casts or cylindroids. In addition to the tests for albumin and sugar, it has been thought advisable to test each case for indican, and it has been of interest to note the almost constant association of indicanuria and oxaluria in certain forms of insanity.

FORENSIC PSYCHIATRY.

PROPOSITIONS RESPECTING INSANITY AND CRIME.

—By W.T. Williamson, M.D., Salem, Ore. (Abstracted from paper read before the Oregon State Medical Society at Portland, Ore). Besides the conditions of full responsibility and total irresponsibility there are all intermediate degrees, rendering classification and legal rules or tests difficult and even unjust.

Society defence and criminal reformation should be the guiding principles, rather than the infliction of punishment as such; and the character of the individual rather than the crime, should determine the quality and duration of the sentence.

As an irresponsible person cannot be otherwise than innocent in the commission of crime, it is only a relic of barbarism to punish him thereafter; hence abhorrence of the "insanity dodge" as a line of defence for criminals, should not be permitted to turn the hand of justice in vengeance to punish the irresponsible.

Experts, as witnesses, should not be allowed to either the prosecution or defense, but should be called by the

court when necessary, thereby removing any possible partisan prejudice or bias in the opinions of experts.

A separate asylum for the criminal insane should exist, where they should be detained sufficiently long to amply safeguard community interests; also criminals who develop insanity subsequent to notable crime, and persons already committed as insane in ordinary asylums, who there commit crimes.

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EDITORIAL.

[All Unsigned Editorials are written by the Editor.]

THE MEDICAL DIRECTOR OF THE LOUISIANA PURCHASE EXPOSITION.—The important post of Medical Director of the St. Louis World's Fair has been filled by the appointment of Dr. Leonidas H. Laidley. Dr. Laidley was born at Carmichael, Pa. He was educated with a view to the medical profession, and entered Cleveland Medical College in 1866. The following year he entered the Jefferson Medical College at Philadelphia. After graduating in 1868, he practiced medicine with his father and brother, and then went to New York, where he entered Bellevue Hospital Medical College and took a higher and more thorough course, graduating there with distinction in 1872. Coming to St. Louis the same year, he entered upon a successful career both as a practitioner and a medical teacher, showing always a decided love for the humanitarian side of his profession.

He helped organize the Young Men's Christian Association, and attended the sick applying to that institution for aid. He organized the free dispensary which became the nucleus of the Protestant Hospital Association. He filled the chair of anatomy and chemistry in Western Dental College of this city, and after the organization of the St. Louis College of Physicians and Surgeons, was called to the chair of surgical diseases of women. After filling that post for years he was called to the same chair in the Beaumont Hospital Medical College, and, upon its consolidation with Marion-Sims College, forming the Marion-Sims-Beaumont College of Medicine, he was made Professor of Gynecology and Pelvic Surgery. He is surgeon to the Protestant Hospital, consulting surgeon to the Female Hospital, and a member of the St. Louis Medical Society. He was a delegate to the British Medical Congress in 1883. When the Louisiana Purchase Exposition Company was organized he was one of the incorporators.

A TEMPLE OF HYGEIA FOR THE WORLD'S FAIR.—We suggest for the World's Fair of 1904 a Temple of Hygeia wherein might be shown the modern advances in sanitation; St. Louis, with a Missouri river gravity water supply and sand filtration for instance, and close by a mortuary wherein might be displayed the shades of the slaughtered innocents and older departed, transported to Charon's tender care by the bacilli of Mississippi river unfiltered water and St. Louis unsanitary dairy products.

COPROLALIA is a term with which neurologists have been familiar for over three decades. It has even appeared in British medical journals. Despite this fact a reviewer in the summer number of *Brain* pompously chides Dr. Berkeley of Baltimore for using this Americanism. This tone of posing criticism is entirely too frequent among certain omnisciently ignorant British medical men, who peculiarly well illustrate the bad effects of the English educational systems pointed out by Macaulay. "They may be very eminent and respectable philistines. They have acquired great skill in business.

They have laid up great stores of information. But something is still wanting. The superstructure is vast and splendid but the foundations are unsound. It is evident that their knowledge is not systematized; that however well they may argue on particular points they have not that amplitude and intrepidity of intellect which it is the first object of education to produce. They hate abstract reasoning. The very name of theory is terrible to them. They seem to think that the use of experience is not to lead men to the knowledge of general principles, but to prevent them from ever thinking about general principles at all. They may play at bo-peep with truth, but they never get a full view of it in all its proportions. The cause is that they have passed those years during which the mind frequently acquires the character which it ever after retains in studies which when exclusively pursued, have no tendency to strengthen or expand it." This patronizingly chiding tone is employed with peculiar frequency in British journals toward cosmopolitan physicians of the United States. The pedantic magisterial tone of *Brain* and some other British journals towards Americans is entirely unwarranted at any time and is grossly garulous senility at the present time toward American neurologists whose votaries are even more broadly cosmopolitan than British neurologists in tone and trend, as their world-wide recognition beyond John Bull and his little island, fully attests.

ANOTHER TOFANIA.—An Italian woman named Tofania in the seventeenth century confessed to having been instrumental in the murder of six hundred people. Now Massachusetts has in the asylum at Taunton a woman who bears a name similar enough to suggest relationship and atavic descent of the murderous propensity of the woman Tofania. The Taunton woman's name is Jane Toppan, lately a nurse at Cambridge and Cataumet, who either sanely or insanely, confesses to the stealthy poisoning of thirty-one persons under a homicidal impulse. This woman's confession rather upsets the learned legal "right and wrong" test and the legal "nature and quality of the act" test of

sanity, if her confession be true, for she admits knowing it was wrong to poison these patients with solutions of atropine and morphia as she said she did, under uncontrollable impulse. The confession appears *prima facie* more like the insane confession of a self-accusing, brain-fagged lunatic than the sane confession, in lucid interval, of insane acts of murder. We hope Drs. Telly Stedman and Quimby, the experts reported to have examined her before commitment, will make a suitable record of this modern Lucretia Borgia, that is, conceding the newspaper accounts to be true.

MEDICAL ASSOCIATION OFFICERS.—At the Saratoga Springs meeting of the American Medical Association, June 14, New Orleans was decided upon as the place for holding the convention in 1903. President, Frank Billings, Chicago; vice-presidents, Dr. J. A. Witherspoon, Tennessee; George F. Comstock, Saratoga Springs, N. Y.; C. R. Holmes, Cleveland, O., and J. H. Dunn, St. Paul, Minn.; treasurer, D. H. P. Newman, Chicago; secretary, George H. Simmons, Chicago.

A CURIOUS SPANISH "AD."—The following curious advertisement is taken from a Spanish journal by *Leslie's Weekly*, which will interest psychologists: "This morning our Saviour summoned away the jeweler, Siebald Illmaga, from his shop to another and a better world. The undersigned, his widow, will weep upon his tomb, as will also his two daughters, Hilda and Emma, the former of whom is married, and the latter is open to an offer. The funeral will take place tomorrow.—His disconsolate widow, Veronique Illmaga.

P. S.—This bereavement will not interrupt our employment, which will be carried on as usual; only our place of business will be removed from No. 3 Lessi de Leinturiers to No. 4 Rue de Missionnaire. Our grasping landlord has raised the rent."

The beginning of the twentieth century finds strenuousness of existence doing much in many minds to abolish all but the dominant idea of constant monetary gain. What

will be the mental state of the world after another century of such sustenance struggle as the present? Here is evidence that the life struggle for the survival of the fittest has culminated in the idea of effort for maintenance being uppermost and paramount, until it has become an automatic mentality to the exclusion of consciousness of restraining propriety in the mind, and ideas of business and emotions of gain assert themselves regardless of the proprieties of time or place or fact.

MARY MACLANE IS NEUROPATHICALLY MORBID.— She shows too much egoism and introversion for buoyant mental health. Morbid egoism is often the beginning on the way to insanity. When "all the uses of this world" are "weary, stale, flat and unprofitable," melancholia soon attends the mind and the greater with misery of a completer mental aberration may soon come to abide it. Self introversion with moody melancholy and morbid egoism are perilous to mental integrity. Mary MacLane is apparently a little neurotic, probably troubled with a latent unrequited erotism, not having yet found its normal affinity. Congenial matrimony often cures the eroto-melancholia of ripening adolescence and places it in normal harmony with an otherwise inharmonious and discordant world.

We cannot say definitely about Mary MacLane, but we can speak positively of others with some similar symptoms. Discussing the story of Mary MacLane a city newspaper with unusual psychical discernment for a newspaper approaches a correct diagnosis when it says:

"Poor little Mary MacLane" was so absorbed in herself and her appetites that she failed to see the opportunities to earn happiness. Happiness is never found in self-absorption; that is the way of despair."

"O Mary MacLane,
You are terribly vain,
And your musings unmaidenly give us a pain,
And the ravings you come
On your beautiful "tum"
Are highly suggestive of bughouse to some."

NEURASTHENIA AND INSINCERITY is the ill-chosen caption, revealing the mistaken diagnosis of a "smart" writer in the *Onlooker*, who looks on with eyes strabismic, seeing crookedly and crookedly falsifying the medical and other professions.

This weak literary fellow and weaker medical diagnostician says: "The wife of one's bosom flirts with the physician, the lawyer, the very curate if he be available. She seeks their sympathy, makes complaint of her husband's incompatibility, rails at his incomprehension. The doctor, trained to an understanding of neurasthenia, shuts his eyes to his diagnosis, neglects the simple hygienic precautions necessary to a cure, pampers his patients hallucination, confirms her in her hysteria. To the lawyer her symptoms are so many forerunners to a fee. To the priest her complaints are the text for a sermon against the non-church-going habits of the husband, an excuse for cloaking with religion the first feeble flickerings of her infidelity."

Let the lawyers and clergy defend themselves. We fight for the doctors and denounce the ignorant, vicious slander. The dogs of medical editorial war should slip their chains of editorial dignity and pounce upon him. Hysteria and neurasthenia, which this writer confounds, are not the same thing. And the doctor who understands neurasthenia and hysteria does none of the things this writer says he does. What sort of wife and what sort of doctor has this writer that he should speak so rashly, so ignorantly and so slanderously?

DR. H. B. CARRIEL WAS ELECTED Central Insane Illinois Hospital Superintendent to succeed Doctor Joseph Robbins, dating from July 1. The name of Dr. Carriel is a familiar one to clinical psychiatry. He was raised in a hospital for the insane and his selection promises propitiously for a prosperous administration.

THE DEVELOPMENT OF PSYCHIATRY is a timely theme well treated editorially by the *Boston Medical and Surgical Journal* of April 10th last. This journal regards it

as a source of gratification that psychiatry is gradually taking the place in this country which it would long since have occupied had not its study, through force of circumstances, been so largely divorced from general medicine. We hope to see the day come when general practitioners, genito-urinary, naso-pharyngeal and other specialists will know enough about some grave phases of psychiatry, such as melancholia, hypochondria, etc., not to pooh-pooh them or to tell them and their friends there is nothing the matter that the patients could not themselves "cure by will power if they tried." Melancholia and hypochondriasis are as morbidly founded as an epileptic convulsion, or a sclerotic tremor.

Men who say they are not and advise against psychiatric treatment by a skilled psychiatrist harm both the patient and their own reputations. Apropos, Dr. Boro Sidis, discussing principles of psychology in *American Journal of Insanity* for January says: "A more careful study of this subject would be of great value to the general practitioner and enable him to better appreciate subconscious phenomena and psychically induced disturbances, which are as often psychically cured. To give the imagination as the cause of the whole field of functional psychoses, the phenomena of hypnosis, the manifestations of the subconscious, and also the methods of psycho-therapeutics based on these, is simply to confess ignorance of the subject. Psychology and especially that part dealing with abnormal mental action has proved useful in giving a better understanding of these phenomena."

INSPECT THE MILK.—If there were known to be as many microbes in beer as there are in milk how long would St. Louis be without a beer inspector and one who would inspect? Let all our drink be free from microbes and bacilli.

A FACETIOUS CITY PAPER SMILES at the number of new doctors graduated. It thinks they must hypnotize the people into the belief that they are ill and confirm that belief with nauseous medicines in order to get business. But there is no need of this. Our great daily city papers

create enough alarm with their quack ads and enough real patients who are victims of the conjoint collusion of the quack advertiser and the newspaper to sustain all the new doctors. The kidney crazed creatures, the failing vitality victims, the pale pill pink people, the mentally, morally and physically ruptured; despairing women; the lost manhood cranks and morbiphobious generally, developed into nervous and physical wrecks by the quack pages of the daily newspapers and finally driven to honest medicine for relief, keep the profession busy. These alarming fake medical ads, that pay their way into the pages of the city newspapers, increase the need of reputable doctors to repair the double damage by the quack advertiser and his abettor, the daily press.

If newspapers were made responsible to law as *particeps criminis* for the wrongs done by these fake advertisements, including the fake mines, oil wells and other get rich quick rascally schemes, fewer doctors would be needed. Shattered hopes, fortunes and bunco games helped along by the newspapers, make much business for the medical profession and unless the newspapers go out of quack and fake abetting business or some new power discovers and applies to the newspaper fraternity a moral antitoxin, doctors may be expected to increase.

DR. OPPENHEIM, Privat docent in the University of Berlin, clinic for nervous diseases, has resigned from the medical faculty. His text-book on nervous diseases has reached its third German edition and has been editorially translated into Italian, Russian and Spanish.

REMOVAL NOTICE.—The Interstate Medical Journal Co., O. F. Ball, M.D., Secretary, announce the removal of editorial and business offices to the Linmar building, Washington and Vandeventer Avenues.

SPLANCHNOPTOSIA AND ITS TREATMENT.—In a paper entitled "Floating Kidney Idolatry—A Polemic" (*Medical Standard*, February, 1902), Dr. Achille Rose maintains that

"the importance which at present is attributed to a floating kidney is one of those aberrations of men of science of which we find examples enough in history. * * * It is an established fact that patients with gastroptosia and general splanchnoptosia have as a rule—but by no means in all cases—dyspeptic or nervous, or dyspeptic and nervous symptoms. My observations have furnished conclusive evidence that these nervous and dyspeptic symptoms may be connected directly with the displacements of the abdominal organs." According to the writer's experience, supporting the abdomen by strapping it with rubber plaster is the best method of restoring the gastric functions and relieving nervous symptoms, in these cases, and should always be tried before resorting to an operation on the kidneys. He is also convinced that we are not justified in pointing out the floating kidney as being especially the cause of gastric and nervous symptoms in cases of splanchnoptosia.—Editorial in *Medical Times*.

Here is another instance of finding a morbid spot and attributing all concomitant nervous disturbance to it. We have relieved many floating kidney patients by treating them with suitable neurotherapy, sometimes with and sometimes without abdominal support, and letting the kidney float, though some undoubtedly should be surgically fixed. The best support and tolerance for a floating kidney is a restoration to that health tone that existed before the floating kidney attracted attention. If that cannot be done, then cut.

A SLAUGHTERED INNOCENT AND ITS PSYCHIATRIC MORAL.—The city daily papers lately contained the following pathetic record of a precocious child pushed prematurely into its little grave by a cruel pedagogic pressure on its too receptive brain. "Marguerite Frances Schafer, the child pianist who died Monday morning after an illness of only forty-eight hours from diphtheritic scarlatina, was laid to rest Tuesday afternoon in Bellefontaine cemetery. She was 9 years old and a pupil of the Eugene Field school. She had developed remarkable attainments as a pianist for a

child and was frequently called upon to perform at recitals and informal entertainments. She had recently been assigned to play for the Friday afternoon exercises at the Field school. Out of respect to her memory there was no session of her class Tuesday afternoon. The floral offerings at the funeral were numerous and included tributes from her teachers and classmates."

The angels will doubtless welcome her as one too soon and too cruelly crowded off this beautiful earth by over-pressure of the brain, though another disease to which she too soon succumbed because of exhausted nerve center resistance, appears on her burial certificate. Oh! the misfortune of premature mental aptitude in the hands of thoughtless parents and ignorant pedagogues as to the sustaining and rebuilding power of the child's brain under intellectual strain. When will the over-receptive neurones of psychic precocity have a chance to live and develop to vigorous maturity in the teaching world? How much longer yet must those whom the gods love be compelled to die young and soar too soon to the home of the angels, when they might be kept with us mortals yet a while longer to bless and beautify the earth?

Claude Bernard's dictum that precocity in animals is evidence of infirmity and precludes longevity, if understood and wisely acted upon by pedagogic and parental custodians of prematurely apt children, might save many innocents from the untimely destruction of too early educational mental overstress. Human intellectual precocity means hereditarily acquired mental aptitude, with the possibility of sustaining action to the point of destruction without the ordinary sense of overstrain.

THE POPULAR POWER OF THE PROFESSION.—An editorial in a recent number of the *American Medical Association Journal* on "the lawyer's fee and that of the physician," says:

"A number of prominent lawyers of Philadelphia have recently testified that \$100,000 charged by one of their number as a fee in a will contest was by no means exces-

sive or unjust, but was moderate and well-earned," and remarks: This happens at a time when the nation offers half a dozen or more of America's greatest surgeons one-fourth of this amount as their total combined compensation for their professional services to its President. One is amazed at the attitude of the world toward medical men, etc. The *Journal* thinks that only a united and organized profession will "right this injustice and teach the world the value of the noblest of human services."

It is not the nobility of the service, but the pecuniary real worth of the service that we should organize to make the world appreciate and properly compensate. The world will take what is bestowed upon it and as cheaply as it can get it. The flush times on the Mississippi of which Mark Twain has written were brought about by the pilots and engineers organizing to restrict the number of apprentices or cubs and the pilots got the bear's grip and one thousand dollars a round trip from the boat owners. The trouble with the medical is in its self-depreciation of its service and its carrying the whole medical charity burden instead of simply its per cent in medical philanthropic enterprises. A merchant gives a little of his goods at cost to the poor sick, but the doctor gives all. The steward and even the trustees of a hospital and the nurses are paid. The medical staff serves for nothing. Law and agriculture have seats in the President's Cabinet. Doctors accept a health board made up of the army, navy and marine hospital service with never a voice in the Cabinet as their ample due.

Medical men must organize and exalt themselves to their proper place in public position to secure adequate personal and pecuniary appreciation by the people. Let medical men stand together for their pecuniary interests as lawyers do, and they will cease to be secondly or thirdly rated men in the esteem of men to whom they often more than equal, and when a medical man puts forth effort singly for the welfare of the whole profession with the people let us applaud and not pull him back and send him away back to sit down as one who is getting too much notoriety, as

is often done; but let us rather applaud the workers for the weal of all with the people.

THE "VIRCHOW KRANKENHAUS" is a fitting monument in Berlin to the distinguished and venerable pathologist whose name it bears. It is up to date in all of its appointments and has capacity as at present designed, for seventeen hundred beds. Now let us have similar hospitals in all the world's great cities.

DR. J. T. ESKRIDGE'S DEATH has left a void in the ranks of American neurology in the Rocky Mountain region not easily filled. He was a worthy worker in the world's neurological field. He did his work well and faithfully until death struck him down in the ranks of most zealous, strenuous endeavor. Before us are two memorials to his worthy memory—one from the profession of the mountain home he loved and labored in; the other from his former home in Philadelphia, of whose neurological society he was a charter member. He was an active member of the leading medical societies of America, professor of neurology in Denver and Colorado universities, author of sixty-five valuable neurological monographs and possessed such mental endorsement and general scientific and literary attainments as best adorn the accomplished physician. His numerous contributions to this journal were painstaking, progressive and original in feature, and professionally appreciated and applauded both at home and abroad. A photo of his face adorns this number. He died of renal metastasis of tuberculosis simulating Bright's disease.

IF MEDICAL MEN PAID MORE ATTENTION TO POLITICS politicians would pay more attention to medical men's interests.

CHANGE OF PUBLICATION DATE.—Hereafter the publication dates of the ALIENIST AND NEUROLOGIST will be February, May, August and November, beginning with the present number, August, 1902. We hope thus to catch up with dilatory proof revisers among our much-esteemed con-

tributors who are good fellows, but mighty slow in sending back proof sheets, some of them.

AN OVERCROWDED PROFESSION would not be the burden of professional complaint if the people were taught to employ medical counsel earlier, oftener, and to retain it longer as they should, before people have to be sent to bed by illness. Twice as many physicians are needed by the people as are employed. In times when epidemics are pending or approaching the people should be put in organic and functional condition for meeting and successfully combating disease. It is now the custom to wait till the human machine is broken and prostrate before asking medical counsel and aid.

THE JOURNALISTIC DOCTOR by J. W. Courtney of Boston, is finely drawn for a summer day's reading. See the *Providence Medical Journal* for July and while reading Courtney's description of the journalistic doctor you will not mind the reading of the thermometer.

SELDEN H. TALCOTT DEAD.—Dr. Selden Haines Talcott, for twenty-five years superintendent of the Middletown, Conn., Hospital for the Insane, died at his home June 15, 1902. He was born July 7, 1842. Just a month and a day previous to his death a dinner was given to Dr. Talcott at the Waldorf-Astoria in New York city, to commemorate his twenty-five years of service at the State Hospital.

Dr. Talcott began his medical career as a homeopathic practitioner but grew broad in his practice, not considering the law of similia as the sole law in therapeutics. He was the author of many clinical contributions to the literature of insanity, mostly hygienic in character and of a work on "Mental Diseases and Their Modern Treatment." He was an alienist of recognized diagnostic skill and excellent administrative ability. He was also a man whose manners and character made him many friends.

He was a physician and citizen of integrity and influence, financial and personal, and an active member of the

Medico-psychological Association. Our sympathies are extended to the family and community who most immediately feel the sorrow of his death.

CULBERTSON OF THE LANCET-CLINIC HITS PEDAGOGY deservedly hard for its dense ignorance or inhumanity or both as to the capacity of high school students to stand the long one daily sessions. (See June 20th number). An ounce of neurology, a drachm or two of physiological psychology and a few grains of common sense based thereon as to the power of endurance and hygienic requirements of the growing pupil at puberty, would be a blessing and life and brain saving investment for the pedagogues of the public schools.

THERE WERE GIANT QUACKS IN THOSE DAYS OF SEVENTY-SIX as now, as the following which we abstracted from the congressional library a few weeks ago. It is from: Claypoole's American Daily Advertiser, (price six cents).

PHILADELPHIA, Thursday, Jan'y 17, 1799,

No. 48 Market street.

To the Public—Mr. Ibrahim Adam Ben Ali, practitioner in medicine, No. 45 North Fourth Street, tenders his services in his medical profession to such as are affected with yellow fever, bilious cholic, rheumatic scrophulous, scurbutic or cancerous complaints of ever so long standing as of the most inveterate kinds. The many cures he hath performed and the success he hath had in Dublin, Liverpool, Grenoch, Glasgow, Edinburgh, New York and Boston, and the respectable testimonies he is able to produce for the satisfaction of all who apply for his advice enable him to assure them through the blessing of God, of the most speedy and effectual restoration of health.

His incomparable Algerine medicine for the scurvy he administers with the greatest effect. He cures the tooth-ache in a few minutes though the teeth be decayed, without the painful operation of drawing. He prepares the genuine Turkish tooth powder which wonderfully whitens the teeth and strengthens the gums; also liquid for the

scurvy in the gums. He has milk of Roses for softening the skin. Also prepares Wash Balls for softening and beautifying the skin and an infallible Russian corn plaster which removes the pain and eradicates the corn in a short time. Also for sore eyes, deafness, cordial for weakness in the stomach, shaving powder for softening the skin and removing pimples. He will make particular agreements with such persons as he undertakes to cure and receive one-half the pay down and the remainder when the cure is affected. He may be spoke with at his lodgings at Thomas Leamns, No. 45 North Fourth Street.

His terms are three shillings from such as apply for his advice, and if he does not affect a cure he will desire nothing but what will defray the expense of the medicine he administers. He gives advice to the poor gratis from 6 till 10 and from 4 till 8.

HIS MAJESTY THE MONARCH OF GREAT BRITAIN AND EMPEROR OF INDIA is not dead, thanks to the might of modern medical science, the technique of modern surgery and the supreme skill of his medical attendants. Fortunate indeed has it been and is it that this great king of a great people should have, in the hour of his supremest need, a Treves and a Lister in timely attendance. The most of the Celto-Anglo-Saxon world rejoices at Edward's recovery, for Edward the king is likewise Edward the man; a man among men, who has mingled as no other British king before him, with his people and the world's people. He is a man and a king who knows something more of the world and of the needs of the common people than most monarchs of his day. Royalty has been democratic in his personal life. Humanity expected and yet hopes much of King Edward.

The gigantic preparations for the pomp and pageantry of the postponed coronation were something of a surprise to us plain people, descended from the mother country on this side, the great nation who considered the democratic habits and predilections of Edward, but the king's affliction will modify this and change the character of the British

monarch for the good of the world. A sensible unostentatious coronation will now take place such as befits a sensible people. It seems but a brief space when the wielder of this pencil met the King on common ground here in St. Louis, both then being only youths. His manliness of character, his eagerness to know the people here, whose ancestors had once been his own people, his gentle demeanor and his observing mind were then noted to his credit. The man that is now in the monarch was shown in him then. If he lives he will be every inch the people's king, knowing their needs and rights and maintaining them.

Had Edward with his knowledge of the hearts that beat in a high-minded people been king when George the Third sat upon the British throne, there might have been no new Anglo-Saxon nation on this continent.

OBITUARY.

DEATH OF DR. GRISSOM.—Dr. Eugene Grissom of North Carolina, alienist and neurologist, committed suicide in Washington July 27, sending a revolver bullet through his right temple, dying a half hour later, without having regained consciousness. He had lived in Washington since last June. Doctor Grissom was born in Granville county, North Carolina. He was 71 years old. He was a graduate of the University of Pennsylvania.

He was appointed superintendent of State Insane Asylum at Raleigh in 1868 and held that position for twenty-one years. Dr. Grissom was presiding officer over the Association of Superintendents of American Insane Asylums. The nomination for congress from the Fourth Congressional district of North Carolina was tendered to him, and later the governorship of the state, but he declined both.

CORRESPONDENCE.

DR. GERSHOM H. HILL HAS RESIGNED.—Following is his letter of resignation:

BOARD OF CONTROL OF STATE INSTITUTIONS IN IOWA: Gentlemen—This letter is to notify you that my

term of office expires with June of this year, and that I am not a candidate for re-election. I became first assistant physician in the hospital at Independence in 1874 and superintendent in 1881. This resignation is tendered in order to be relieved of the constant care and responsibility which the office involves. The hospital at Independence is well organized and in good condition. The assistant physicians are skillful and worthy of promotion. I expect to locate in DesMoines next July and to practice medicine as a specialist in insanity. I have enjoyed my work under the new law and under your direction very much indeed. Generous and friendly treatment has been accorded to me during the four years of our co-operation. I embrace this opportunity to thank each member of the Board for kind treatment at all times. I shall never lose the deep interest always felt in the charitable institutions of Iowa which you are managing most successfully. I am very respectfully,

Your obedient servant,

GERSHOM H. HILL.

Independence, Ia., March 17, 1902.

Dr. Hill goes from this great state institution into private consultation practice specially well equipped with a large and valuable experience.

"EDITOR ALIENIST AND NEUROLOGIST:

Volume xxiii, No. 2, page 217, contains the following expression: 'E. C. Spitzka has struck a vigorous psychological blow in his recent *Medical News* article on Czolgosz, etc.' As this contribution appeared exclusively in the *Medical Critic*, vol. I, No. 1, we would be pleased to learn your reason for crediting it to a source wherein it never appeared. The title and contents of the *Medical Critic* is fully covered by copyright, and whilst no objection will be made to the reproduction of anything appearing therein, provided proper credit be given, we will prosecute to the full limits of the law violators of our legal privileges. Yours very truly,

MARTIN W. CURRAN."

Simply a mistake, Doctor, which we take pleasure in correcting.—ED.

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

PROGRESSIVE MEDICINE, Vol. II, June, 1902. The June issue of *Progressive Medicine* contains a series of valuable contributions on subjects of great importance to the general practitioner. Dr. Wm. B. Coley ably considers the Surgery of the Abdomen, including Hernia. Dr. John G. Clark the field of Gynecology, and Dr. Alfred Stengel on the Diseases of the Blood and Ductless Glands, the Hemorrhagic and Metabolic Diseases, keeping pace with the most recent advances which have been especially remarkable in the study of the blood. The article on Ophthalmology by Dr. Edward Jackson is marked by its author's characteristic facility of dealing with the subject in such a way as to be of value to the oculist and at the same time to meet the needs of the general practitioner. Illustrations appear liberally in elucidation of the text. The abstracts give full the complete gist of the original papers from which they are taken, with valuable editorial comments.

Progressive Medicine is a quarterly Digest of Advances, Discoveries and Improvements in the medical and surgical sciences; edited by Hobart Amory Hare, M.D., Professor of Therapeutics and *Materia Medica* in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 440 pages, 28 illustrations. Per volume \$2.50, by express prepaid to any address. Per annum, in four cloth-bound volumes, \$10. Lea Brothers & Co., Publishers, Philadelphia and New York.

A PRACTICAL MANUAL OF INSANITY by D. R. Brower, A.M., M.D., LL.D., and H. M. Bannister, A.M., M.D., Philadelphia and London, W. B. Saunders & Co., 1902.

The present work being intended as a manual for students, elaborate case records, pathologic detail and dis-

cussions of controverted questions are omitted. This is the standard set up by the authors of the manual and by it alone can the work be justly reviewed. On the whole, viewed from this standard the authors have performed their task well. The opening discussion on the definition of insanity points out that definition of insanity, like definition in science generally, is and can be merely relative. The classification is one of the many modifications of Krafft-Ebing principles which now form the basis of most classifications elsewhere than in England and France. Practically the classification turns on the influence of the periods of stress, on degeneracy and finally on the relation of the normally constituted to exciting causes. The criticism may be made that as a rule epileptic insanity as well as hysterical turns upon great degenerative neuroses. The acquired types of these are comparatively infrequent. While confusional insanity is recognized, typhomania, the acute delirium of the Germans, French, Italians, Scandinavians and Russians is not. There is as much difference between the pathologic results of acute delirium and those of acute confusional insanity as there is between hypomania and the exalted state of paretic dementia. Under the principle laid down however the present manual is justified in placing the two psychoses in the same group. The work shows more evidence of clinical observation than most of those lately poured forth in such multitudes by the medical press of the English speaking nations. The book is well issued by the publishers.

THIRD SERIES, Vol. XXIII of "Transactions of the College of Physicians of Philadelphia" (1901) enchains the interest of the medical reader from start to finish. The contribution which perhaps will most interest the neurological student is the remarkable illustrated contribution by Dr. Wm. G. Spiller on a case of complete absence of the visual system in an adult. Samuel Pearce's paper on "Association of Hysteria with Insanity" will interest alienists and general practitioners. It is a theme especially for the attention of the general physician, as is also the paper

of Riesman on "Albuminous Expectoration in Thoracoparacentesis" and the heat fever records by Spellissy. "Surgical Collapse" by Crile of Cleveland will profit neurologists as well as surgeons, as well as the contributions of Packard, LeConte and Keene. Gibbon makes an instructive illustrated report on cholelithiasis.

The neurologist will be supported in his views of the neuropathia of herpes by the valuable, carefully prepared paper of VanHarlinger on the "Origin and Nature of Herpes Zoster." Every article is creditable work. The anatomy and histology of the large intestine of the dog, experimental dysentery in that animal and many other experiments with toxic medication recorded are all recorded. Sailer's Tuberculosis and Leukemia, and Hopson and White on Sarcoma of Large Intestine, all make valuable contributions. The Memoir of Pepper, that Prince of Provosts and Physicians, is a true tribute to great worth while that of Chalmers DaCosta, the father of American surgery, and the Memoirs of Paget are well-merited and classical encomiums. Though Paget was an Englishman we approve the Anglo-American sentiment of the memorialist that "no fame can rise and burn in England but reddens these western skies." To one who knew Pepper and Paget these encomiums are pleasing paintings of personal and professional worth.

DRUG HABITS AND THEIR TREATMENT—The author of this work has been foremost for many years in studies of inebriety, and his influence has been notable in establishing a true recognition of this form of neurosis. He has also contested vigorously for the notion that alcoholism is a curable condition. In the present work the author discusses the alcohol, morphine, and cocaine habits, and even touches upon such drug habits as those of gelsemium, paraldehyde and tea, among many others. The book is a useful one and reflects its author's manifest enthusiasm for the subject with which it deals. This estimate of the medical age of Dr. Crothers' excellent book we cordially endorse.

The Drug Habits and Their Treatment. A Clinical Summary of Some of the General Facts Recorded in Practice. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford Conn.; Professor Diseases of the Brain and Nervous System, New York School of Clinical Medicine, G. P. Engelhard & Co., 1902, Chicago.

HOCHGEEHRTRE REDACTION—In der Anlage beeubre ich mich 1 Diehl, Merkfähigkeit, 4m; 1 Kassowitz, Alkaholismus, 80m; 1 Sänger, Neurasthenie, 80m; zu baldgef. Besprechung zu überreichen, mit der ergebenen Bitte, mir ein Recensionsbeleg gef. übersenden zu wollen—Sollten Sie eine Besprechung nicht angemessen erachten, so darf ich wohl gef. Rücksendung des betr. Buches entgegensehen. Hochachtungsvoll ergebenst,

S. KARGER,
Verlagsbuchhandlung für Medicin.

Clinical contributions—I, Papillo-Retinitis Due to Chlorosis. II, Two Cases in which Eye Strain was Relieved by Vertical Decentration of Lenses. By Cassius D. Westcott, M.D., Assistant Professor of Ophthalmology, Rush Medical College; and Brown Pusey, M.D., late House Surgeon, New York Eye and Ear Infirmary.

A Collective Investigation upon the Physiological Action and Therapeutic Application of Coca. By Wm. Golden Mortimer, M.D., New York. Reprint from Peru History of Coca, the divine plant of the Incas, with an introductory account of the Incal and of the Andean Indians of today.

The Despotism of the Dollar. Address delivered before the Connecticut Society of the Sons of the American Revolution at their annual banquet in New Haven, February 22d, 1902, by Walter S. Logan of New York, is worth reading by every American patriot.

Monograph Read Before the West Chicago Medical Society on a New Method of Delivery by the Obstetrical Tractor. By E. D. St.-Cyr, M.D., Chicago.

Kidney Disease in the Insane. A Study of Six Hundred Urinalyses and Seventy Autopsies. Reprinted from

the Transactions of the Medical Association of Georgia. By M. L. Perry, M.D., Milledgeville, Ga.

Report of the Massachusetts State Board of Insanity, third year. Jelly, Howard Codman, Garner, Harwood, members of board.

Alkoholismus im Kindesalter, von Prof. Dr. Max Kassowitz, Direktor des I, öffentlichen Kinder-Kranken-Institutes in Wien.

Zum Studium der Merkfähigkeit, Experimental-Psychologische Untersuchung, von Dr. Aug. Diehl, Nervenarzt in Lübeck.

Trophonine: An Ideal Nutritive in Phthisis Pulmonalis. By J. Leffingwell Hatch, B.Sc., M.D., F. R. M. S., London.

Alcoholism and Crime—How We Should Deal with the Criminal Alcoholic. By Heinrich Stern, M.D., New York.

Inaugural Address as President of the Medico-Legal Society. By Clark Bell, Esq., New York City.

Optic Neuritis in the Young, with Report of Five Cases by William Cheatham, M.D., Louisville, Ky.

The Diagnostic Importance of the Examination of the Feces. By Charles D. Aaron, M.D., Detroit.

The Wellcome Physiological Research Laboratories, Walter Dowson, M.A., M.D., Director.

A Case Illustrating Plastic Surgery of the Eyelids. By Cassius D. Westcott, M.D., Chicago.

Neurasthenie und Hysterie bei Kindern, von Dr. Alfred Saenger, Nervenarzt in Hamburg.

The Wellcome Chemical Research Laboratories, Frederick B. Power, Ph.D., Director.

A Plan for the Study of Man. By Arthur MacDonald, Washington, D. C.

Median Nerve Palsy. By Haldor Sneve, M.D., St. Paul, Minn.

The Prostate by John B. Murphy, A.M., M.D., Chicago, Ill.

The ALKALINITY in Milk Modification

DOCTOR;— the following facts concerning the merits of the two salts most used for rendering cow's milk alkaline for infant feeding, are worthy of your attention.

In the ash of human milk the predominating salts are Potassium Salts and not Lime Salts.

Potassium combinations with butter fats are soft and easily soluble. Lime combinations with butter fats are insoluble.

Potassium Salts are less liable to cause constipation than Lime Salts. (Cheadle.)

A solution of Potassium Bicarbonate is permanent in composition. Lime Water is changeable and extremely liable to be of different alkalinity.

Potassium Salts are more effective in preventing the formation of hard curds than Lime Salts.

The nature of Potassium is to soften, the nature of Lime is to harden.

In view of these facts we claim that Bicarbonate of Potassium is a more desirable agent than Lime Water for rendering cow's milk alkaline.

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Fayette, Mo., June 13th, 1901.

HENRY HEIL CHEMICAL CO., St. Louis, Mo.

Gentlemen:—Allow me to thank you for the samples you sent me. I have not had a chance to give the Glyco-benphene-Heil a fair trial, but have found the Borobenphene-Heil all that it is represented to be as an antiseptic, and a relief in smallpox cases. I used it treating eyes, ears, nose, etc.; it gave good relief—also in nasal catarrh, otorrhea, otitis media, etc., it acts well. Yours truly,

C. W. WATTS, M. D.

Office of Dr. C. W. Price, Richmond, Me.

President U. S. Board Pension Examiners, Bath, Me.
MESSRS. BOVININE CO.

Dear Sirs:—I desire to send you this unsolicited testimonial. I regard Bovinine as one of the most valuable foods I have ever used in my practice, covering over thirty years. I have had most wonderful results in saving starving bottle-fed babies. As a dressing in old chronic leg ulcers, it has no peer. I have healed some very large, deep tubercular ulcers this past winter, which would yield to no other treatment. In deep-seated abscesses and in traumatic lacerations, carbuncles, etc., my chief dependence is "Bovinine."

I wish as a boon to humanity, that every physician in America would use it in these troublesome cases.

Very truly yours,
C. W. PRICE.

THE GREAT demand for X-Ray and Electrical Apparatus and most especially for "The Sorensen" can hardly be illustrated any better than by the fact that a new Company has been incorporated in Ravenna, Ohio, with a capital stock of \$25,000 for the manufacture of such goods. They have bought out the Grand Rapids & Toledo Com-



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panies as well as the old place where the "Sorensen" was made in Ravenna and they are now building a factory with about 25,000 square feet of floor space in addition, making it the largest factory in the world for the manufacture of such goods. The name of the new firm is "The Sorensen Mfg. Co." and they are pleased to see all of the customers of the three companies they are succeeding as well as all others who may wish to get acquainted with their goods.

I AM NOT in the habit of writing promiscuously of the virtues of medicines but when I have used a remedy for many years with uniform success I feel that it is not out of place to give that remedy my commendation. I have been engaged in the practice of medicine here for many years and the diseases which I am called upon to treat are mostly of malarial origin. Under such circumstances I am required to have a positive and efficient tonic for the hepatic organs. It is very difficult for me to get along without that tried and true remedy for the above conditions, Chionia. I frequently use it alone and at other times in combination with other indicated remedies. I find it a real tonic for liver troubles and not a mere stimulant, that its administration promotes digestion and supplies the exhausted and run down liver with new energy. Another great advantage is that it has no depressing effect which ordinary purgatives possess.

L. WILLIAMS, M.D.,

Yorktown, Ark.

I am particularly well acquainted with Cactina in the pillet form and can speak highly of it as a cardiac tonic and as a remedy for palpitation in dyspepsia.

ALEXANDER BRYCE, M. D., D. P. H.,

Birmingham, Eng.

WHY COCA IS A PANACEA.—How many of our readers appreciate the true value of Coca as an all around remedy! Not Cocoa, from which chocolate is made, but Coca, from which that potent substance Cocaine is produced. It requires one ounce of Coca leaves to make one grain of pure Cocaine, and that alkaloid is but one of many contained in these marvelous leaves. It is because of the modified action of all the constituents that the whole drug is possessed of different therapeutic properties, and is specifically greater than any one of its parts. Coca is a nerv-



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Has a powerful action upon the blood and entire organism, is indicated in all cases complicated with **Malaria**, **Scrofula**, impoverished Blood, Anæmia, etc., etc., in conjunction with Pil Orientalis (Thompson), will control the most obstinate cases of **Impotency**. "Drink Cure" cases, saturated with Strychnine, "Weak Men" cases, who tried all the advertised "cures" for impotency, and were poisoned with Phosphorus compounds readily yield to this treatment. Pil Orientalis (Thompson) contains the Extract Ambrosia Orientalis.

The Therapeutical value of this Extract as a **powerful Nerve and Brain tonic**, and **powerful stimulant of the Reproductive Organs in both Sexes**, cannot be over-estimated. It is not an Irritant to the organs of generation, but A RECUPERATOR and SUPPORTER, and has been known to the native Priests of India, Burmah and Ceylon for ages, and has been a harem secret in all countries where the Islam has planted the standard of Polygamy.

It is impossible to send free samples to exhibit in Impotency cases, requiring several weeks treatment, but we are always willing to send complimentary packages of each preparation (with formulas and medical testimonials) to physicians who are not acquainted with their merits.

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ous stimulant, acting primarily on the cerebral cells, but in this action having an elective affinity for the respiratory center and a chemico-physiological depurative influence on the blood. It is from this latter cause that Coca has such a widespread usefulness, which seemingly classes it as a panacea for all ills. With a purified blood stream, the organs of assimilation and the muscular and nervous systems are not only repaired, but maintained in equilibrium.

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a grain of morphine. Having this fact in mind, the dosage which is appropriate in any case will at once suggest itself.—Extract from “Remedial measures indicated in affections attended with Pain,” by G. S. Trotter, M.D., in *New Albany Medical Herald*.

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CHAS. E. QUETIL, M.D.,

Philadelphia, Pa.

THE ORIGINAL OF SHERLOCK HOLMES was a man in real life, Dr. Joseph Bell, under whom Dr. A. Conan Doyle studied medicine in Edinburgh University. Dr. Bell was a noted surgeon, so fond of deducting important facts from small details that he was nicknamed “Doctor Deduction” by the students. He was given to the use of drugs to stimulate his nerves.

THE PRECOCIOUS CHILD.—The genuinely precocious child is very rare. Parents are seldom justified in attributing to their children powers which are transcendent. The vanity of so doing would be harmless in itself if it did not sow a crop of terrible mistakes in the treatment of the child which tends to its bodily and mental undoing. The signs of brain fag in a child, says Dr. Grace Peckham Murray in the August *Delineator*, are easily read, and the warnings should be heeded at once. Parents should ever be watchful that the growth of the mind should not be made at the expense of the body, and the body at the expense of the mind. The child’s mind is bound to be active about something; that is its normal condition. The mischief comes from overtaxing it with matters which are beyond its comprehension, or gorging it with impressions that at best the child can only partially comprehend.

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Blackburn at the Griswold house yesterday, when the conversation turned to money, "and I have found the official guides in all of them broken down in nerve and victims of insomnia."

Mr. Blackburn was formerly a medical man, but does not now practice his profession. He has traveled considerably about the world and has taken an interest in currency and the mints of the big nations. He continued: "Every one of these officials is required to give bonds, not only for his own honesty, but to cover theft by visitors whom he conducts over the mint. It is customary to hand coins about among the visitors to show money in its various stages of development. If the party is a large one the nerves of the guide are strung to a high pitch to keep track of all the coins circulating among the visitors. At the French mint one of the guides confessed to me that the sight of coined gold and silver was loathsome to him, and he had to look upon every one who visited the place as a possible robber. Besides the effect on the nerves, in nearly every case it affects the eyesight. One of the guides in the British mint told me that thirty-six years of continued gazing upon gold and silver had affected his sight so that he is unable to distinguish certain objects, unless they possess peculiarly iridescent qualities."—*Detroit Free Press.*

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care and then given whatever remedy the substitutor thinks best. All this, irrespective of the doctor's diagnosis. In short, the treatment is in accordance with the "diagnosis" made by the substitutor. And as all substitutors are thoroughly saturated with avarice, greed and utter disregard of the most sacred rights of others, the fate of their victims can well be imagined. It is the purpose of The Antikamnia Chemical Company to expose and punish this crime wherever they locate it, and they have notified the trade that the least punishment "substitutors" of this kind can expect, is exposure of their guilt.

DR. E. H. POMEROY has severed his relations with the institution at Lake Geneva and has been succeeded by Dr. William G. Stearns, who for several years was superintendent of the State Hospital at Kankakee, and subsequently has pursued the subjects of mental and nervous diseases in connection with the Northwestern University Medical School, and the College of Physicians and Surgeons, and limited his practice to these diseases. He is in every way entitled to confidence.

SOLD WRONG MEDICINE; FINED \$50.—In special sessions on last Thursday before Justices Wyatt, McKean and Hinsdale, Clarence D. Bowman, a director of the Lewis A. Bates Company and the manager of their drug store at No. 739 Sixth avenue, pleaded guilty to having violated section No. 364 of the Penal Code in using another preparation in place of essence of pepsin manufactured by Fairchild Brothers & Foster in filling prescriptions calling for the latter preparation. He was fined \$50. It appeared that on several occasions when physicians had prescribed Fairchild's pepsin Bowman had delivered the imitation mixture. Bowman said he was sorry for what he had done, but had no excuse to offer. In imposing sentence Justice Wyatt said that the offense was a most serious one, and that a heavier penalty would have been imposed had not the injured firm recommended leniency by reason of its being the defendant's first conviction.—*New York Press*, May 24, 1902.

THE
ALIENIST AND NEUROLOGIST.

VOL. XXIII. ST. LOUIS, NOVEMBER, 1902. No. 4.

OUTLINES OF PSYCHIATRY IN CLINICAL
LECTURES.*

By DR. C. WERNICKE,

Professor in Breslau.†

Lesson from hallucinations continued—Stability of preformed association bonds—Participation of the projection fields in hallucinations—Special localization of memory pictures—Paraphasic speech impulse of paralytics, compulsory repetition of phonemes—Different intensity of memory pictures—Hypermetamorphosis—Hyperæsthesia—Modification of the scheme of identification disorders.

LECTURE TWENTY.

THE conception just evolved seems to encounter an obstacle which merits our consideration. How is it possible, we may ask, that a pathological stimulus, whose localization is in a certain measure subject to chance, repeats that order of stimulation which appertains to a definite optical memory picture, or such an artificial grouping of individual impressions as belong to the acoustic memory picture of a word or a melody? Might it not be

*Continued from the ALIENIST AND NEUROLOGIST, Vol. xxiii, No. 3.
†English by Dr. W. Alfred McCorn.

expected that a pathological process acting at once, dependent on the chance of the affected area, might result in a wholly anomalous stimulation of the perception cells-concerned of the central projection field in no way corresponding to the functional unity of the memory pictures and the concrete concepts? Still this obstacle is encountered more in dream-like or some combined hallucinations than in single hallucinations of one sense. We must perceive the peculiarity of these dream-like hallucinations consists in the stimulation inducing the hallucination occurring similarly, *i.e.*, with that arrangement of the stimulus which reflects an exact picture of the reality. In fact we cannot dispense with a hypothesis for the explanation of this remarkable coincidence, which I have previously indicated*, when I said the experiences of the clinic necessitate transferring the proposition of the specific energy of the sense elements to the whole association organ and assuming that in the unison of the same combination of associative elements the same psychical process always occurs. We had formerly employed this only so far, that we explained the appearance of definite thoughts as such a unison of a very definite combination of associative elements. We will now have to go a step farther and consider the origin of dream-like hallucinations to be a unison of these functional units by some special stimulus. In other words: in whatever way a stimulus may act on the elements united by repeated function and usage of functional units, the effect is always the production of a definite, specific content. Thus the simultaneously combined hallucinations afford us an example of the stability of these functional unions,† which represent the picture of the world. The consideration just advanced is especially applicable, when it is the matter of the irradiation of some stimulus to the intact central projection fields, while disease of the projection fields is able to produce pathologically changed hallucinations. Thus we understand A. Pick's remarkable observation in an individual who formerly had sensory aphasia. The hallucinations

*See ALIENIST AND NEUROLOGIST, Vol. xxi, p. 3.

†"Merksystemen" nach G. Hirth, Epigenesis der Merksysteme, Munich, 1897.

of hearing here had a pronounced paraphasic character and consisted of distorted words, sentences of disconnected words, etc. The same author reports a patient with hemi-optic defect of the homonymous quadrants of both visual fields. This patient's hallucinations of sight had the peculiarity that they had defects corresponding to the quadrants affected, so that for instance a head appeared with a corresponding sector missing. In progressive paralysis, that disease which always leads to a local disease of the projection fields, distorted or entirely senseless words are often hallucinated, but also elementary sounds which might owe their origin to the irregular local irritative effect on a diseased projection field. Optically the most diverse manifestations of light, visions of lightning and balls of fire, are observed, whereas the great majority of hallucinations are certainly to be ascribed to the irradiated irritative effects, for brain pathology teaches that the largest number of irritative symptoms depend on a transmission of the irritation from parts of the brain often remote.

According to the view just advanced we will not hesitate to regard hallucinations localized processes and to presume their seat to be in the projection fields of the senses affected. We are obliged to locate the first stimulation process in that locality, which corresponds to the memory pictures and to take from them a further stimulation of the proper perceiving elements arranged according to the norm of the projection system, "perception cells" as we formerly called them. This conception must, as is readily seen, support that hypothesis which locates the memory cells, not at the point of perception, but in other parts of the cortex, a hypothesis that has essentially gained in probability by a paper from my clinic by H. Sachs.* As you remember in my introduction I represented, as the essential factor of the memory picture, the form of the stimulus, *i. e.*, the mutual relation of the stimulated perception cells, and Sachs has proven, or at least made very probable, that the memory of this relation in the sense of

*Die Entstehung der Raumvorstellung aus Sinnesempfindungen. Psychiatr. Abhandlung, von C. Wernicke, Nr. 5.

sight is not to be considered represented in different elements of the light field so called by him, the cortical termination of the optic tract, but in the motor oculi projection field. We might regard vision as the result of the process of sejunction, definite motor oculi memory pictures are excited and from there the coordinated precipitating elements of the light field so-called. This second act is involuntary, and we must hence conclude that only a stimulus of pathological intensity can overcome the obstacles opposing the enforced inversion of the direction of conduction. That these obstacles are very important, we conclude from the fact that most visions are described as shadowy and slightly luminous, while the other fact that they usually appear superficial and like pictures, indicates that the transmission of the stimulus from the motor oculi field to the corresponding one of the other hemisphere does not ordinarily occur—perhaps because no preformed path exists. We cannot generally expect from a stimulus due to pathological processes, that it is manifested symmetrically at identical places in both hemispheres, or we will admit this as possible only exceptionally and under certain conditions. For the estimation of depth, in so far as it is ascertained by the eyes, the cooperation of the motor oculi projection fields of both hemispheres will always seem essential. You see that the hypothesis of a more or less voluntary localized pathological stimulus affords the simplest explanation of certain fundamental attributes of hallucinations of sight. Of course the other possibility is not to be overlooked, that a pathological stimulus is exceptionally manifest in the light field: we then have so-called elementary hallucinations, manifestations of light of the most diverse sort, in which form is secondary. When anyone sees lightning, a cloud of fire, a flaming sword, a sea of fire or refuses the milk because he takes it for blood, or sees pools of blood in his bed, it is a matter of these primary stimulations of the light field—of course in consequence of the sejunction process.

That a similar consideration applies to the memory pictures of tones and speech sounds, H. Sachs has cleverly

shown in his paper just mentioned. Here in the memory pictures the relation of tones and sounds to each other is decisive, and therefore probable that these relations of magnitude are joined to a motor acoustic projection field corresponding to the motor oculi. The transmission of the pathological stimulation from this supposed field to the acoustic projection field conditions the occurrence of the hallucination and, as the great majority of relations of magnitude represent speech sounds, the subjective cause of speech sounds. In the exceptional case that the acoustic perception field is primarily affected by the stimulus, subjective noises and tone combinations of irregular quality, the *akoasmas* so-called, arise. That hallucinations of hearing and especially the phonemes, contrary to hallucinations of sight, have the complete stamp of reality, it is comprehensible from the fact, that the centre of word sound images is located on one side, so that in the phonemes we have an exquisite focal symptom of the left temporal lobe, at least of limited localization value, which irritative symptoms possess in themselves. This value materially increases as soon as to the symptoms of stimulation are added those of defect, and therefore this is the place to call to mind the occurrence of maniacal aphasia,* as I called it. We will see later that this name may no longer seem applicable, for it is more a matter at the same time of a hyperkinetic and parakinetic symptom. This symptom is that of the paraphasic speech impulse occurring quite often in paretics, an exquisite motor symptom of irritation, in which the defect, the disease of the first left temporal convolution, is manifested in the paraphasically altered form of the speech impulse. Contrary to the other isolated speech impulse of the paretic without paraphasic complication occurring quite frequently, which is a true maniacal symptom, this speech impulse also has in content a large motor stamp and doubtless depends on an irritative effect, which has its starting point in the affected left temporal lobe. We then perceive that any stimulation of the left temporal lobe may act in an entirely different way, in a certain

**Gehirnkrankheiten* 3, Bd., p. 551.

measure contrary to that in the acoustic projection field, and that the irritative effect in these cases uses the pre-formed path to Broca's convolution.

Another fact deserves mention under the same point of view as the localization of the effect of irritation; I refer to the quite common imperative repetition of phonemes. This exquisitely motor symptom, which under certain conditions may be combined with paraphasia, points to an irritative effect, which belongs to one of the two kinds of irradiation familiar to us. It has the peculiarity, that the content of the phonemes very often consists in affectless series of associations learned by heart, *e. g.*, in the repetition of the multiplication table. As much as this circumstance speaks for a strict localization of the stimulus in the temporal lobes, these cases in no way belong to paresis, but to the motility psychoses, and this is true of imperative speaking without previous hallucination of the speech sounds.

You see that the knowledge of all these inwardly homogeneous symptoms places in the correct light the importance of the first left temporal convolution as seat of the phonemes, the most frequent and, I may almost say, the most important of psychotic symptoms. Nevertheless we cannot doubt that, excepting certain special cases, as I have in part indicated, the left temporal lobe is not the real seat of the disease processes, whose irritative effects it manifests. The phonemes are rather to be regarded largely as reflex or secondary effects, at any rate manifestations of irradiation from other localized disease processes—sejunction processes. This is proven by the one, at least fundamental fact, that exactly the same disease types may occur either with or without phonemes. The phonemes then show that they are replaced by a corresponding content of thought, if not put in the exact words. Besides from the further fact that the content of the phoneme conforms to the type of disease, is like the content of thought. We will soon have to go into this point more fully.

You see that any attempt to obtain a better understanding of the psychoses leads us to certain important questions in brain pathology, as *e. g.*, that of the special

localization of memory pictures. In my opinion this is now quite probable, not only from the properly presented theoretical statements of H. Sachs, but also from the observations, if still few, in which cases of asymbolia so-called has been carefully investigated and a careful autopsy made. Three such cases from my clinic, two with autopsies, have recently been described by Heilbronner* in my psychiatric papers, and asymbolia accordingly represented as a combined disorder, in so far that secondary identification is in part lost, in part the primary identification of the sense impressions. The first condition is explained by the autopsy from the bilateral breaking up of the medullary layer of the convexity of the brain mantel, between the occipital and temporal lobes on one side and the other parts of the brain on the other. The disorder of primary identification is amply explained by the partial destruction of the occipital and temporal lobes. Therefore the clinical presumption for the symptom complex of asymbolia, namely the integrity of the real act of perception is also confirmed by the autopsy, in that the light field of the occipital lobe, as Sachs calls it, and on the other hand the great part of the temporal lobe, are retained and still combined with the projection fibres. To make my position plain in this matter, I will at once state that I attribute the act of functional transmission from the perception to the memory centres to primary identification and will alone recognize the transcortical transmission of the stimulus to the latter as secondary identification. Also the autopsy of the case of mind blindness closely observed clinically by Lissauer,† anatomically investigated by Hahn,‡ supports this assumption.

A second equally important question, in which psychiatry is largely interested, is whether thoughts occur in words or concepts or largely in one of these forms. As you remember I have previously said, that thought is never exclusively associated with the presence of word concepts or images of word sounds only, that independent thought

**Psychiatrische Abhandlungen, Heft 3 and 4: Asymbolia.*

†*Arch. f Psych.* 21 Bd.

‡*Arbeiten aus der Psychiatr., Klinik in Breslau, Heft II, Leipzig, 1895, p. 105.*

in concepts is to be admitted. However, I might previously have stated that individual variations in this respect may exist, in a certain measure brain habits, accordingly some think largely in words, others in concepts. I fancy thinking largely in concepts is the deliberate, in a certain measure, scientific form of thought more exactly suited to reality. But I cannot deny that eminent brain experts like H. Sachs advocate another view and, so to speak, locate wholly logical thought at the seat of sound images, *i. e.*, in the left temporal lobe. As I have previously stated, this goes too far in my opinion and is contradicted by clinical experience in diseases in the left temporal lobe, but I must admit that, irrespective of an individual variation, a series of concepts exist, which in my opinion may be especially connected with the left temporal lobe as the seat of the word memory pictures, and therefore because, contrary to the other and especially all concrete concepts, the necessary word sound image affords in a certain measure the only rendezvous of all accompanying associative combinations, because further these latter are all acquired by means of speech. I do not mean by this the expressions for states of internal experience, which I have previously cited, but more artificially learned concepts acquired by instruction and in no way the abstract alone. This includes, *e. g.*, the numerals and their use, as well as concepts of historical dates and personalities combined with definite names, and actually many that are abstract. A thought which is independent of the left temporal lobe we will only be able to conceive of under the limitation to largely concrete concepts, we say with a certain simplification of the content of thought. In general the object of clinical psychiatric observation, namely the motor relation of certain external conditions, makes no essential claims, the less so as more acute the disease is, so that we can then actually take account of the accepted individual variation of different persons.

At least I know for a fact, that for a whole series of mental diseases, which occur at one time with, again without hallucinations—and it is always a matter chiefly of

phonemes—there is no other explanation than this individually different habit of thought, which in those thinking largely in words explains an increased excitability of word sound images and hence the readier occurrence of hallucinations.

If a doubt is possible whether thought occurs exclusively in memory pictures of words, it is wholly impossible to deny that one thinks chiefly in memory pictures, and that for the differentiation between a memory picture and an idea we must possess an absolutely reliable sign derived from internal experience. But it is a question how memory pictures of different intensity are estimated by us, and whether in this respect perhaps the elementary symptoms of autochthonic thoughts, imperative conceptions and quantivalent ideas permit of a closer analysis. Of these three symptoms the imperative conceptions are evidently the best known and most readily separated. But in the acute psychoses their clinical importance is relatively small. The quantivalent ideas, as we shall soon see, require a certain broadening of their definition. Then it is clear that they can claim a significance similar to hallucinations in the clinical picture of the acute psychoses. Of the autochthonic ideas, we have already seen that they are closely related to the phonemes, may precede or pass into them and occasionally are not to be separated from them, in that the patients do not know whether a real vocal sound is present in the prompted thought or not. The relationship now becomes more evident, in that the autochthonic ideas always seem to be put into definite words and that they have according to their content the same significance, as is especially clear, when the content corresponds to a command or interdiction and affects the patient's action.

The factors cited permit the interpretation that the autochthonic ideas, like the phonemes, are an irritative symptom of the temporal lobe, *i. e.*, an appearance of very vivid memory pictures of word images, without the irritation extending to the organic sensations of hearing. The like intensity of the pathological irritation presumed, would then necessarily result in the further hypothesis, that the irri-

tive process, which may extend to the seat of the organic feeling, *i. e.*, the acoustic perception field, must have—functionally—origin nearer the temporal lobe, than another, which is exhausted at the seat of the memory pictures. We thus arrive at the assumption, which I have previously given you, that the difference in the localization of the sejunction process is the basis of the difference between hallucinations and autochthonic ideas.

I have already intimated that primary identification in the insane may be affected sympathetically. The two symptoms, which are here to be considered, relate to the real boundary between secondary and primary identification, namely the organic feeling adhering to the "perception cells," and it is not chance that they are chiefly observed in pathological states, which in their whole character are close to the so-called "organic" diseases of the brain and nerves.

By *hypermetamorphosis* we understand the organic impulse to notice sense impressions and take the attention. It may usually be shown experimentally, in that some sensory stimulus is brought near the patient, *e. g.*, shown the watch, the handkerchief, the purse or some object accidentally manipulated, for the sense of sight; produce a noise, like the clock striking, making a half audible remark to a third person, letting the water tap run, humming a melody, for impressions of hearing; incidentally touch the patient, for tactile impressions; bring odorous substances near him, for impressions of smell. The patient's whole conduct may usually prevent the symptom unmistakably and immediately, and especially it is the occurrences on the ward, which imperatively claim the patient's interests. Still a distinction with respect to the sense is often plainly shown, in that many patients are more attracted by visual impressions, many more by the acoustic, especially in the patient's manifestations. We find an explanation of this symptom in the assumption of an increased excitability of the organic sensations, so that the innate attribute of attracting the attention is manifested in weaker, otherwise unobserved sensory stimuli. That in such exaggeration of

the organic sensations, the quietest surroundings with the most monotonous impressions offers the patient sufficient and more than enough material for the sense impressions, is comprehensible. The most suitable place for such patients is therefore in seclusion, for the symptom is of essential practical importance, because it can produce, maintain and increase a patient's motor restlessness, irrespective of the fact that the other patients may be disturbed, annoyed and affected sympathetically. The cardinal sequela of hypermetamorphosis is the distraction, *i. e.*, the faulty pliability of thought and the patient's inability to follow a certain train of ideas. The patient's answers, the information he will give of his own accord, may therefore have the appearance of being incoherent, because he is interrupted every moment by existing sensory impressions. Hypermetamorphosis is therefore a cardinal element of those symptom complexes, which we will later become familiar with under the name of confusion. In this symptom complex it may occasionally be the decisive and controlling element, but hypermetamorphosis is unable to form* a real disease type, it always seems to be an attendant, if important symptom in this respect.

Hypermetamorphosis is the most closely related to the so-called *hyperæsthesia of the sense organs*, a symptom which is common to many physical diseases. Hyperæsthesia is in no way identical with hypermetamorphosis and must not be confounded with it. In the insane it has only a slight and almost never independent significance, at most only in those chronic insane, who must be considered transitional forms to the hysterical type, then almost exclusively in hysterical women. Further it perhaps causes the symptom of timidity in certain dazed conditions common to epileptics, which owing to the evident blunting of the sensorium and their stuporous character, present a great similarity to well known symptoms of organic brain disease (especially meningitis). The timidity of certain very acute types of mental disease, which we will become acquainted

*The discoverer of the symptom, H. Neumann, has advanced such a disease type, but in combination with so many other elements, that it can only support my claim.

with later, probably depend in part on this, irrespective of the hyperæsthesia of the sense organs being observed particularly in the first increasing stage of acute psychoses and in their convalescence, when it renders the patients more or less intolerable and dissatisfied or irritated by the impressions from their surroundings, according to the personality.

The two symptoms just described cannot fail to remind you of what was formerly said in attempting to define mental diseases and separate them from brain diseases. If hypermetamorphosis depends on an increased excitability, a permanent irritable state of the perceiving elements, perception cells as we have called them, it does not belong to the disorders of secondary identification, but has its seat in the next terminations of the projection system. This is true of the hyperæsthesia of the sense organs, when its cause is not to be sought in a peripheral portion of the nervous system, what may be the case in all those instances, where the hyperæsthesia is manifested in only one sense. Therefore hyperæsthesia has always been described among the disorders of the peripheral nervous system, whereas hypermetamorphosis is always of central origin. Clinical observation confirms our conception, in so far that we will meet the symptom especially in the severe pathological states, irrespective of its uncommonly frequent occurrence in the agitated forms of paralytic psychoses. Among the non-paralytic psychoses it is particularly the two types of disease of confusional mania and the hyperkinetic motility psychoses, where the symptom is almost never absent and constitutes a very essential component of the disease type.

It will not seem strange that our scheme sAZm permits the deduction of certain boundary cases, in which the principle of secondary identification is violated and a transition between primary and secondary disorders of identification seem to occur. We will then have the same experience in the matter of motility, where we will meet with states of muscular rigidity accompanied by profound unconsciousness, which form a decided transition to epileptic

seizures, and yet according to their development can only be regarded as a specially violent exaggeration of symptoms of hyperkinetic and parakinetic motility in the course of severe psychoses of motility. We will quite often meet with the development of actual contractures as the result of habitual parakinetic identification disorders in the psychomotor domain. Our scheme also shows how universally nature does not go to work schematically. We must always remember that every scheme, and ours as well, only possesses the value of a means of instruction and explanation and is superfluous as soon as a better, easier or more correct grouping the facts is found. Rely upon it, no one is more imbued with this necessity than I, and that respect for the facts in this attempt to clinically present the mental diseases is my chief incentive.

We will now understand that we have the right to change our scheme as necessity demands without being accused of being illogical. This is the proper place to ascertain as to how far such a requirement exists.

I must still remind you of my introductory remarks as to organic sensations and the consciousness of corporality. We had then become acquainted with certain motor manifestations, which we have interpreted as protective measures for the body and traced them to preformed, probably inherited* mechanisms. Such movements were in part of a simple nature, like congenital reflexes, e. g., the adaptive movements of the eyes, the withdrawal of a limb from a painful irritant, in part complex motor coordinations, like those of recoil, dodging, etc. Such movements have the common characteristic that they occur as reaction to active organic sensations, and half unconsciously, at least without any complex mental action. Experience teaches that these movements occur in the insane, and our scheme is not, or only under considerable constraint applicable to them. The change in our scheme, which is here necessary is merely that we consider given a sort of cortical reflex, a short cut, to use a comparison, to one of the shortest paths between s and m, a path which wholly belongs to the consciousness

*Epigenetic medullary system according to G. Hirth's happy expression. See "Epigenesis der Merksysteme, Munich, 1898.

of corporality and is relatively independent of further action of the organ of consciousness. We thus arrive at an explanation of a series of motor manifestations, which, according to their form, are known to us as reaction to intense organic sensations from normal mentality and are observed in the insane under conditions which permit the conclusion of an extreme blunting of the sensorium.

Thus *e. g.* the wallowing or agitated movements resembling jactation, often perfectly identical with it, in many profound dazed conditions of epileptics and paralytics, occasionally lasting for several weeks, continual and always of the same monotonous mode of execution. More definite motor coordinations are occasional, like those of twisting (under pain), doubling up, which point to active organic sensations in the intestines, without there being a doubt as to their central mode of origin. We will then presume the same mode of origin, when the patients are conscious and also able to inform us at once or afterward of the organic sensations that were the cause of their movements. The expressive movements, like crying and howling, often with all the force possible, are observed in consequence of a feeling of anxiety. Modifications of these expressive movements by special localizations of the anxiety, as *e. g.*, in the throat, stomach, bladder, uterus, usually accompanied by intense somatic sensations in these organs, are the ejaculation of grunting sounds more or less animal like, touching or pulling at these parts of the body, etc. Also the feeling of indefinite physical restlessness combined with corresponding motor agitation, ascribed by the patients to uncomfortable sensations beyond description and often to be observed in complete consciousness, one will be justified in tracing them to vague organic feelings, an analogue of jactation observed in unconscious states. As is seen in these purely somatopsychical motor manifestations, consciousness need not be summarily excluded. But it behaves like a spectator of these processes being enacted in a certain measure in deeper regions, sometimes not as a mere spectator, in that the affect may develop on the basis of perplexity or definite explanatory ideas.

When you reflect that by means of experiment, a paralytic weakness of the posterior extremities may be produced by contusion of internal organs, like the kidneys, you will immediately recognize the possibility that states of immobility and chiefly of an akinetic sort, may occur from the direct effect of pathological organic feelings on motility (by short cut). Normal mentality offers analogies. We naturally find that patients with nephritic or hepatic colic cannot move on account of the pain. Perhaps it is to be regarded as similar, when a state of general immobility moderate in degree is observed in patients who complain of an intolerable crawling sensation in the intestines, or when a patient awakens from a state of intense general immobility after lasting for months, gives as the reason, she had felt a bird in her body, etc. We will find comprehensible in this way the origin of akinetic symptoms when the muscles are the seat of the organic feelings. I have repeatedly observed cases in which any extensive passive movement is painful, it appearing coincidently with the most intense feeling of illness and usually with a complex of melancholic symptoms.

LECTURE TWENTY-ONE.

Disorientation the fundamental symptom of every psychosis—Perplexity combined with the condition of acute origin—Different kinds of disorientation and perplexity—Actions thus resulting—Motor disorientation and perplexity—Transitivism.

It might be advantageous if, ere we go farther, we become somewhat better acquainted with the most essential character of all acute mental diseases by means of our instructive case in the engineer K. The psychosis, which Mr. K. has had, will more occupy us greatly later, for it represents an extremely complicated and heretofore little known form of disease. But therefore it is useful for our

present purpose, for the patient has not only experienced a great part of the elementary symptoms, which can be derived from our scheme of the identification disorders, but is able to graphically describe the effect they have had on him. The most general expression we find for this effect is *disorientation*. In disorientation we have to behold the real nature of every psychosis. The identification disorders considered in our scheme merely represent the means nature uses to induce disorientation. There are no insane who are not in some way disorientated. If they are not, they are not strictly insane. In disorientation exists the damages, which the disease process, in greater part unknown, causes in the insane. All pathological changes in the content of consciousness, which temporarily or permanently appear in the insane, may be brought under this concept of disorientation. After my previous explanations of our scheme this connection between the action and content of consciousness, this legitimate consequence of disorientation from the pathologically changed action of consciousness can only seem natural. The importance of this point of view is the more evident, as I might emphasize, that the content of consciousness and its changes offer relatively the most comprehensible, most evident, most readily estimated manifestations. We will therefore classify the psychoses by the changes in content induced by the disease, exactly in the same way as we did with the chronic psychoses, and will find that we have thus obtained a natural system of classification complying with all the facts. Corresponding to our division of consciousness into three parts of corporality, the world and personality, we will encounter the clinical necessity of differentiating corresponding kinds of disorientation and hence use the expressions somatopsychical, allo-psychical and autopsychical. Besides we will differentiate the disorders of motility occurring in part in the somatopsychical, in part in the autopsychical domain as a special motor kind of disorientation. When, as in the acute psychoses, the disorientation occurs acutely, it is naturally combined with an active affect. An applicable term for this is *perplexity*, which is quite often used by the insane

themselves. Accordingly we will hereafter have precise expressions for the different color of this affect in the words somatopsychical, allopsychical, autopsychical and motor perplexity.

Thus Mr. K. spoke wholly spontaneously of the perplexity in which he was for a long time. "He has always been surprised, nothing had come of his perplexity." The false sensations particularly, to which the patient has been subjected, are the cause. As he has always been essentially orientated as to his abode and the persons about and even presumed a certain orientation as to the combined hallucinations by regarding them visions, we see in him that the significance of the false sensations really consists, as we have previously* regarded it, in the picture of the world receiving a pathological accession not corresponding to the reality, but still the reality may be recognized as such and the allopsychical orientation retained in a certain measure. Further we will have to regard this pathological accession as disorientating. But the orientation in the actual data of the world is not invalidated by the hallucinations. I emphasize this, because we will meet it repeatedly in the acute mental diseases; by false sensations alone patients are not robbed of their orientation, even not by combined false sensations, in case a state of essential stupor does not exist simultaneously, whereas a high degree of allopsychical perplexity may result. One of the most instructive examples of this proposition, I have recently had opportunity to observe. It was a servant girl W. of 26, who had had epilepsy since maturity, and about one and a half years ago, when eight months pregnant, had a short psychosis (lasting six days) after a large number of epileptic seizures, since then has been feeble-minded and thus repeatedly had shorter or longer attacks of intense postepileptic psychoses. She recently had four epileptic seizures in one day, the next day had a febrile angina, but slept during the evening and a greater part of the night. Toward morning she suddenly awoke in a condition I was able to observe on my visit six hours later. She presented

*See ALIENIST AND NEUROLOGIST, vol. xxI, p. 10.

an extremely affective picture of despair; fire, hell, murder threatened her, she would be gotten by the devil, torn in pieces, tortured, butchered, broke on the wheel, burned, thrown into the water. The world would be destroyed by fire, the city burned, the Lord come. She heard all this from voices coming from all directions, from which she tried to escape by frantic efforts, by the most desperate attempts to kill and injure herself. Constant watching was necessary to prevent her doing herself harm. At the same time she saw heads, forms, flags, soldiers at the windows. Still she was perfectly orientated, attentive to the medical admonitions, recognized everyone about, took medicine readily. With the phonemes there was an intense feeling of anxiety in the breast, 4 grains of amyl hydrate had an immediate sedative effect; patient stated that the terrible talking ceased and thus the annoying feeling of anxiety. The attack was relieved without sleep occurring. Similar attacks of less intensity still repeatedly occurred during the next ten days, followed by the usual condition in the interval. In this patient we have learned that bromides, even in the largest doses, have always failed to relieve the psychical symptoms.

You cannot fail to remember now that condition I formerly termed destruction of individuality, and explained by the sejunction process. Here in perfect consciousness two groups of incompatible ideas exist, namely the correct conception of place and persons on one hand, and on the other the fanciful threats regarded as equally real. The first, as it seems, cannot cope with the affective color of the latter.

We will become acquainted with states of allopsychical disorientation accompanied by active false sensations. In view of the facts we have just become acquainted with, we are not justified in ascribing disorientation to false sensations, but must regard it an independent symptom.

It is very instructive in this respect, that the same patient K., who has now almost recovered from the second attack of his trouble, two years prior to the time of his first sojourn at the Clinic, he had been in a condition for

months which consisted in a moderate degree of allopsychical disorientation and entirely free from false sensations. Patient was then surprised at everything he saw and experienced, and thought it all had a meaning, as e. g., that food one time was put in his hand, at another put beside his bed, a third time was handed over the bed of another patient, that the resident physician had once sat with his legs crossed, again with them stretched out, one time had sat on the edge of the bed, again on a chair. Once while a pile of washing was counted in the corridor, the patient stood full of astonishment and declared he would stay up all night to see what became of the soiled linen. The patient was then rendered incapable of any coordinated action by the impulse, unnoticed by him, of cogitating over every trifle and said: "He did not understand anything that happened then, he did not know what he should do and not do." As nutrition suffered, he was expressly commanded to eat, and it then improved.

Besides the states of allopsychical perplexity and allopsychical disorientation, we had to constate in our patient autopsychically a confusion of his orientation. He stated that during his illness he believed to have acquired insight, that in very early childhood he had not been cared for by his parents, but in a deaconesses' asylum, and then later returned to his parents. He believed to remember whole scenes from his child, which he thus explains. We also learned that the idea had become fixed in him, he has to suffer for others' sins, and in transferring this idea to others,* his relatives and the resident physician should have such a duty. The idea of being a saint and of having existed before at different times, controlled him for a long time. Autopsychical orientation has likewise suffered without the memory of his actual personal experiences being lost. For the mental state induced by the opposition of these two incompatible series of actual and imaginary facts, the patient characteristically used the expression, perplexity. We will qualify it by autopsychical.

That the various pathological sensations and disorders

*See ALIENIST AND NEUROLOGIST, vol. xxiii, p. 133.

of general feeling, to which the patient has been subjected, were suited to produce an affect, is at once evident. We will see later, that the most intense affects are combined with the changes felt in the body. The affect will be the more intense, as more the new feelings differ from the familiar physical sensations. Thus we hear the patient describe the feeling, as though the brain was soft, as though it was enlarged and again contracted, as though the head and body were hollow, as though his body was drawn in certain directions, as though he was inserted in a magnetic current. The most of these expressions were evidently comparisons used by him to express his perplexity. We may conclude from the thus induced affective mental condition, that the attempt made by the patient to take his life was due to these feelings. The *somatopsychical* perplexity had evidently increased to despair. As we learn the patient had intense feelings of anxiety at the onset of his illness. He located the anxiety in the cardiac region and also distinguished it perfectly from the feeling of cardiac spasm and palpitation, as he did headache from other abnormal sensations in the head. This localized anxiety, which we will meet with frequently, may perhaps be regarded as a component symptom of somatopsychical perplexity.

We will not go amiss, if we consider a series of conspicuous actions observed during the patient's severe illness to be the result of this prevailing mental state of perplexity and will try to understand it from this point of view. He has occasionally drank from the cuspidor, defecated in the sputa cup, on the floor, another time urinated in a pitcher, put his clothing on wrong, laid down on the wet ground in the yard, etc. The patient now gives partial reasons. He presumes he had suddenly become tired, states he had been surprised by a sudden desire to urinate or defecate, and did not believe the rest. He has forgotten many things, as we may readily believe. But we cannot doubt from analogy with other patients, that these are the *actions of perplexity*.

Another series of conspicuous motor manifestations by

the patient are to be judged from an entirely different standpoint. Thus he has actually made gymnastic movements, for a few days sung several senseless syllables and accompanied it by beating time with his arms. He has made remarks at the same time by which it is shown that he is by no means in the corresponding jovial mood. The patient now confirms this. He has sung, although he had not felt like it, and now does not know how to explain it. But on inquiry we learn that the singing, like the beating time with the arms, might be the result of voices, without, the patient thinking he is the subject of a direct impulse. In the same way he explains the circumstance, that he had thrown himself on the ground shortly before admission to the Clinic and howled rhythmically with all his might. This has been merely a reaction to voices, which had "demanded blood." The patient explains the technical term "to demand blood," which he let slip at this time, by the frequent repetition of the word blood by the voices. We will later meet with the phenomenon so often that some movements are made by the patient in full consciousness, but are not volitional, the analogue of autochthonic ideas, only with the difference that it is a matter of motor or objective ideas, so that it is now advisable to employ a name for these peculiar phenomena. I generally call them pseudospontaneous movements. Explanatory delusions are usually combined with them. If our patient simply reports the fact, without adding an explanatory delusion, this is due to the fact of the patient having been too absorbed in the voices he heard at this time. Less precise than with respect to the pseudospontaneous movements is the patient's information regarding certain motor defects, which have been observed in him for a long time. The patient has not spoken voluntarily (initiative mutism) for weeks and only rarely on being questioned (reactive mutism). The balance of his conduct does not permit the conclusion, that this is due to conscious refusal, for the patient has often been seen trying to speak and move his lips without uttering a sound, in spite of a perceptible effort. The patient now admits this much as certain, that there has been no real

paralysis of the muscles, which had prevented him from speaking, besides he only knows that it was hard for him to speak without being able to give any further reason; he expressly denies having been forbidden to speak by voices. We hear the patient describe hyper (para) kinetic as well as akinetic states (disorders of identification) in circumscribed muscular areas; he is able to do this, because he remembers them exactly. His mental state during these strange and incomprehensible phenomena, he is no longer able to describe more exactly, having only very general expressions of astonishment for it. Still, as he has perceived these phenomena in himself during perfect consciousness—what is not always the case, because these states are often attended by clouded sensorium—we may presume them due to a corresponding affect, which we will call *motor perplexity*. We thus obtain an expression for a very complex mental state, which affects the autopsychical, as well as the somatopsychical domain, the first in so far as the movements executed in full consciousness are generally an emanation of the personality or individuality, the second therefore because the involuntary movements must be sensed as changes in the body (with respect to its position in space). Motor perplexity will generally lead of necessity to the formation of explanatory false ideas. If we would simply believe the patient's statements, these would here be entirely wanting. But on the contrary I must appeal to other numerous experiences, which cannot appear accidental, that the patient has alluded to in speaking of his autopsy, chical disorientation, which we can now connect with the stated motor disorders of identification. He has said he has believed to have to suffer for others. This "saviour idea," as we will call it, so frequent in the insane, is very commonly united to motor symptoms as an explanatory idea, as they have been above described, in that the akinetic symptoms are interpreted as a trouble imposed by God, the hyperkinetic in that the patient is an instrument of God.

The affect of perplexity is, as you will have seen from the previous remarks, a sort of reactive phenomenon to confusion in orientation induced by the stated disorders of

secondary identification, it is then not to be strictly separated from disorientation and frequently combined with it, but may occur as you have seen, when a certain orientation exists and in this way effects the opposition to reality and disease manifestations in the patient. It is found in the acute psychoses exclusively; in the chronic it will be sought for in vain. Still it occurs in the frequent acute exacerbations of the chronic psychoses and gives them the stamp of acute diseases. Where it is a matter of a very general disorientation, the affect may therefore be wanting and thus purer the type of disorientation, whether it be in the allo-psychical, autopsychical or somatopsychical domain.

On the other hand, as is readily understood, the affect may be wanting, because the capacity for vigorous reaction to the acute disorders of identification is very generally blunted, *i. e.*, in defect states, as in paretic dementia, presbyophrenia and hebephrenia. Here the absence of perplexity is just as characteristic as is its presence in other cases. At this time I mention another symptom which is frequently combined with perplexity, yet is to be differentiated from it and is essentially a consequence of autopsychical disorientation, we will call it *transitivism*. It depends on the fact that the patients, who are devoid of any sense of illness, are so changed in their whole thought and feeling, that the presumption of identifying trains of thought, which render us capable of correctly comprehending the conduct and behavior of other persons, no longer occurs in them. It is preferably their own relatives, whose conduct seems strange, peculiar and incomprehensible to the patient so that they come to the presumption that they must be insane. This symptom is the purest in certain acute disorders, which have been preceded by a long premonitory stage of symptoms not especially psychotic. It culminates in the occurrence I have encountered a few times, that the patient accompanies his relatives to the office to introduce them to the physician as presumable patients. A more careful examination of the patient in these cases has always shown me that periods of intense affect combined with disorientation were present.

These remarks do not of course fully describe the affective state of the acute psychoses, still less can it be said that every acute psychosis is accompanied without exception by the same affects. But you have at least the material indispensable for taking up the theory of illusions and the conformity of the content of phonemes. Hence it is necessary to return once more to the concept of the supraquantivalent idea.

(*To be continued.*)

THE PROGNOSIS OF MENTAL DISEASES.*

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WITHIN the last ten years clinical psychiatry has made very marked progress. This has rendered possible a sharper differentiation than heretofore of the several forms of psychical disease, and on the basis of previous experience in similar cases, the more correct prognosis as to the course of a certain psychical disease.

How great the importance of the earliest possible prognosis, in view of the long duration of many psychoses, is evident. In a curable disease no efforts should be spared to restore the father to his family; it will be well to let his business go on, even at a loss, when there is a well-founded prospect of his being able to resume it again. Whereas in hopeless cases the finances of the family must be conserved and regulated by many conditions affecting the patient and themselves, accordingly as the affection will in all probability terminate fatally within a few years, or the disease process does not impair the vital integrity, so that the family will have to provide for the dependent many decades. The advice to be given must be thoroughly individualized, the grawsome truth often kept from the relatives, yet it is clear that the stern facts must sometimes be communicated to prevent further catastrophe. Such precautionary advice is of great importance, *e. g.*, in the consummation of marriage with a person who has been psychically ill, or the resumption of

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important positions, *e. g.*, locomotive engineers, apothecaries, etc. How important is medical advice as to the future course of life of young persons, who—whether congenital imbeciles or have become mentally weak—cannot master the tasks imposed upon them at school or in their apprenticeship, in spite of all the trouble taken with them. How portentous it is to advise when the relatives wish to know if mental integrity will probably follow an attack of curable mental disease, or whether the improvement is only a temporary abatement of the symptoms with a final termination in dementia, or if other, yet curable, attacks are very likely to occur.

These points of view have led me to speak of the prognosis of the more important psychoses. I cannot do otherwise than to refresh your memory in questions of diagnosis.

Mania is one of the psychoses to be most readily diagnosed. Three cardinal symptoms justify the diagnosis: 1. Motor impulse; 2. Excitable, unstaple mood; 3. Flight of ideas; in consequence of flight of ideas the thoughts constantly wander from one theme to another and leap to those united by only superficial associations; the patient constantly loses the thread of his talk. The symptom trio of mania is often of milder form, when it is called hypomania; again it is very intense, then termed frenzy. The prognosis of mania is favorable, for it almost always recovers. Its duration varies greatly, from weeks and months to one, two years even. The physician and relatives may lose all hope as to the future; the patient raves, is destructive, noisy and filthy for a year and more. Nevertheless recovery occurs; at least it may occur and one may accordingly be obliged to modify all the statements as to the expected termination. As a rule when mania affects a person not only once, but several times, it belongs to the periodical mental disorders. The individual attacks of periodic mania are sudden in their onset as a rule—usually without any exciting cause. In the female sex, in whom the disease is somewhat more frequent than in the male, menses and confinements seem to influence the development of such attacks.

The free intervals are of about the same length in only a small number of patients. The attacks of those, in whom intervals differ greatly in length, still present exactly the same symptoms. A fundamental separation of cases with intervals of equal length from those of very different length, is therefore of no purpose. Many times the disease recurs after months, again after years, finally after decades even.

The theory of melancholia has recently been transformed by Kraepelin, for this investigator claims with his characteristic perspicuity, that melancholic depression at an early age is to be entirely separated from that occurring at the climacteric and in senility. The states of melancholic depression occurring at a more or less early age, curable in themselves,* have a great tendency to recur, either in the same form or as some other acute psychical disease, while involutional melancholia generally recovers and that of senility very often terminates in mental enfeeblement.

If the depressive states constantly recur, the patient has periodic melancholia; the symptoms often consist merely of slight psychical inhibition and apathy with dejection (hypomelancholia); again the manifestations of inhibition are so intense that it is proper to call it stupor; another time depressive delusions occur, either of sin, persecution or hypochondriacal ideas.

In each of these states the danger of suicide is to be guarded against. Every suicidal patient should be in the insane hospital under constant supervision!

Much more frequent than periodic mania and periodic melancholia is the alternation of maniacal and depressive attacks; this, which has recently been termed manic-depressive, was formerly known as circular insanity; a regular alternation between mania and depression is rare, irregular alterations and irregular intervals being much more common.

We have already spoken of the duration of the individual maniacal attack. With respect to the duration of the individual depressive attack, it is a matter occasionally

*It is to be kept in mind that many diseases begin with a depressive stage in katatonia to be spoken of later with respect to prognosis.

of days only, more often of weeks, usually of months and now and then of one to two or three years! The depressive attacks are generally more tedious than the manic. Sometimes the season seems to have a certain influence on the cycles with short attacks, in that patients quite often have their depressive phase in the autumn and their manic in the spring.

Knowledge of the prognosis of periodic mania, periodic melancholia and circular insanity is of great value in deciding, whether the conditions for divorce exist. The law is: a person may apply for divorce, when the other party is insane, the disease having lasted for three years of the married life at least and has attained such a degree that all companionship between them has ceased and any prospect of its restoration is out of the question!

The occurrence of lucid intervals between the individual attacks of periodic insanity is of eminent importance in the matter of divorce. If there are free intervals, when the patient seems mentally sound, divorce is impossible in any of these periodical mental disorders; when no lucid intervals occur, the patient being psychically abnormal between the more pronounced conditions, divorce may be obtained.

With regard to the probable length of the free intervals the rule is in general, that between mild attacks short, *i. e.*, of months, between the more severe longer intervals, *i. e.*, for years, occur. Sometimes the attacks are very frequent for a few years, then subside for years, decades even. In old age the free intervals become ever shorter, sometimes the patient is mentally abnormal, confused and excited during the intervals.

Every state of depression—as well as of excitement—occurring in early life must awaken the suspicion of a recurrence of psychical disease in some form, particularly hypomelancholia, which, like hypomania, is very often not recognized as pathological, but as pseudophysiological. Whereas the melancholia of the age in involution, between 40 and 48, is a special disease. It often lasts six months, quite often a year and even longer. The majority of patients recover or essentially improve. When the course

of the disease is tedious, it is often hard to say when it actually terminated. And this opinion carries with it great responsibility, owing to the danger of suicide still present in the stage of convalescence. The weight often affords us an indication. In the insane hospital, when the weekly weights are graphically registered, their curves have the same practical importance as the temperature curves in a general hospital. If the weight increases coincidently with the psychical improvement—it falls at the onset of any state of severe depression! and the curve is uniform, the patient recovered or improved may confidently be discharged from the institution, the danger of suicide is no longer present, the psychosis has terminated, he is again able to work and support his family. If he has improved psychically without a simultaneous gain in weight, he is not to be trusted—his discharge is inadvisable. We read in the daily press of shocking suicides and murder of their relatives by melancholiacs, when they are without the necessary surveillance, often so difficult in their present mental condition.

Melancholia occurs after 55, even after 60—the prognosis is then always more serious than in earlier years—particularly when the depression is complicated with signs of mental enfeeblement. The majority of melancholiacs on the verge of senility do not get well—more or less marked mental enfeeblement results, to which is often added fixed melancholic traits. Now and then the disease terminates fatally.

The forms of psychical disease appearing between 65 and 75, but sometimes also earlier or later, belong to senile dementia. The dementia, which as a rule is manifested in progressive enfeeblement of judgment and memory with perversions of the latter, is complicated with delusions of persecution, states of excitement, confusion, delirium. These conditions come and go; it is sometimes surprising how slight is the dementia after the termination of severe acute symptoms. Therefore it is well to be cautious in the prognosis of states of excitement in the senile, and to recommend to the relatives an expectant line of action. A confusional state often disappears under proper treatment, so

that the patient may enjoy a happy and peaceful evening of life at home. Still whether, after the subsidence of the excitement, he is destined to have such clear understanding, that he can *e. g.* make his will, will always be a question and each case will have to be judged on its merits.

In large cities we are sufficiently familiar with paretic dementia, progressive brain paralysis. We know that this terrible disease is always most frequent among the so-called better class, and that it is due particularly to the cooperation of luetic infection and mental stress at the most vigorous period of life. The chances of paresis are probably increased as more improperly the syphilis has been treated. The censure of physicians, as well as the patients, recently made by Professor von Tschisch at Dörpat: You are to blame for paresis, for you did not treat the syphilis thoroughly, respectively have it treated, seems extravagant and unjustified; still paretics often come to us with lues, who have been improperly treated or not at all.

As you know, paresis is characterized by a combination of somatio-nervous and psychopathic symptoms. Reflex immobility of the pupils, difference in their size, absent or exaggerated knee-jerks, blunted pain sense, articulatory speech disorder and tremor of the lips are the most important somatio-nervous symptoms present in either greater or lesser number. Brief attacks of vertigo or paretic seizures are often frequent, again rare. The blunting of the psychical functions consists particularly in weakness of memory and judgment, deficient attention, great excitability or general stupidity and corresponding states of volition. At one time the psychical symptoms predominate, at another the attendant physical. A very early diagnosis is usually possible in both instances.

Demented, depressive, expansive and agitated forms are to be differentiated. All four forms terminate fatally, but vary as to their average duration. To be aware of this is occasionally of great practical value.

The demented form, which is the most frequent, consists of an intellectual, sentient enfeeblement; it lasts about two to three years, sometimes less, rarely four and five

years. Paretic seizures are often observed, as a rule result in augmentation of the dementia and are quite often the immediate cause of the death. The remissions, always to be taken into account in the prognosis of paresis, are rare in the demented form.

The second form is the expansive. This is the type usually very conspicuous, owing to its absurdly extravagant grandiose delusions, and so is early recognized to be pathological, but, when only slightly pronounced, is often not so recognized by the laity, until the patient by silly purchases and wild speculation seriously endangers his own and others' property, or by excesses of all kinds has gravely impaired his reputation and health. The expansive paretic belongs in the insane hospital. The diagnosis of paresis can be made after brief observation. Still as physicians we must be especially cautious in communicating the prognosis and diagnosis to the relatives, higher officials, and of course in still greater measure, to those less concerned, because in this form extremely well marked remission of the symptoms, approximating mental health, very often occurs. These remissions may occur more than once; we have *e. g.*, at Sonnenstein a patient with three long remissions during the first two he carried on his business and supported his family, but again became expansive and is now in the terminal stage.

Another expansive paretic, a prominent postal official, during his remission, for he was discharged from Sonnenstein, attended to his not simple duties for months to the complete satisfaction of his superiors, and thus earned another leave of absence with continuation of his salary for a year, after he had already had the vacation allowed; as unfortunately was to be expected, he became ill again, but his family had the material advantage of his work during the remission and he could even be promoted to the first class, which otherwise would have been impossible.

The duration of expansive paresis is often given too short by my colleagues; it is longer than that of the other forms. Naturally death may occur early in consequence of accidents, but only about one-third of the patients die

within the first two years. The total duration may be six, eight, ten years and more. Paretic seizures are more rare in the expansive form than in the demented, in spite of the much greater excitement.

The course of the disease is more rapid as a rule in the less common agitated form; death may occur in the early months in consequence of exhaustion from constant shouting, motor restlessness and insomnia—in spite of proper treatment.

The inordinately worried patients with depressive paresis die after one, two to three years. This form is more frequent in the female sex and quite often affects persons somewhat past the usual age for paresis; the tendency to depressive forms of disease at the climacteric is also manifested here!

As in all diseases, so in paresis, the special prognosis as to duration depends largely on the treatment. Antiluetic inunctions are useless after paresis is once established; but the duration of the disease seems to be prolonged by the cautious early and continued administration of potassium iodide; much of course depends on the prevention of decubitus, prevention or treatment of cystitis or an injury, which from the indiscretion, restlessness and lack of the pain sense may lead to serious complications. The chief affair is the care during the paretic seizures and in the terminal stage; also very important are attention to the cardiac weakness characteristic of progressive paresis, the supervision of the food, the neglect of which may result in strangulation while eating, and the care at night especially.

As already remarked, the total duration of paretic dementia is usually given too short: Heilbronner estimates that about one-tenth of the patients live longer than five years after the onset of the trouble. Kraepelin says of the duration of the remissions, that they amount to a few months at most, but those lasting 2-3 years have been observed in some cases.

If after paretic dementia we consider the prognosis of insanity in other so-called organic brain diseases, it is of practical importance that mental disorders may possibly

result from severe head injuries after a long time. I recently had to give my opinion in the case of a roofer, in whom mental weakness from fracture of the cranium was first manifested after many years; he had fallen from the roof, was first unconscious, greatly confused for months, then improved very essentially mentally and physically. His indemnity was therefore gradually cut down. But years after, for no other cause, an unmistakable dementia gradually developed; it was of great value to the patient and his family to prove this, for the accident insurance company to which he belonged, in view of the exaggerations so common among those injured in their efforts to secure damages—as a matter of course—had become mistrustful and would not admit the connection between the accident and the subsequent dementia.

The prognosis of mental weakness from compression in fractures of the cranium, circumscribed brain tumors and other brain diseases is bad, if the patient suitable for an operation does not early fall into the hands of an adept surgeon; if the trouble exists long, changes in the general brain substance occur from degeneration or brain pressure, which can no longer be relieved. The prognosis of insanity from cerebral abscesses and syphilitic focal diseases of the brain depend largely on the treatment.

This—dependence of the prognosis on the treatment—is true of a psychical disease rare in our vicinity, but still occurring: myxoedematous insanity described by Kraepelin, which occurs particularly in women late in life, owing to pathological processes in the thyroid gland. It consists of a very gradual progressive retardation and impairment of all the psychical functions, and, if not treated, may terminate in dementia. When small doses of the substance of the thyroid gland are given, a remarkably quick recovery is effected, if the disease has not existed too long. The psychotic symptoms disappear simultaneously with the conspicuous myxoedematous thickenings of the skin of the face and arms. Large doses of thyroid are extremely dangerous, for they may induce profuse diarrhœa, marked emaciation and heart weakness.

In recent cases of cretinism, which happily no longer occur in Saxony, treatment consisting of a change of residence and administration of thyroid, will be of great importance for the prognosis.

More frequent, unfortunately all too frequent with us, is a far larger group of diseases, which from their general etiological factor, is called the alcoholic psychical diseases. The prognosis of alcoholic psychoses is in general very bad. The majority of inebriates gradually degenerate, intellectually and ethically, as well as physically, while only a small portion can be treated systematically and long enough to be wholly restored.

Many times the delusion of jealousy of the inebriate can be improved or cured only after complete and long withdrawal of alcohol. The acute alcoholic psychoses; delirium tremens and hallucinatory alcoholic insanity, are in and of themselves curable, yet in both diseases very great danger of relapse exists.

The duration of hallucinatory alcoholic insanity is occasionally only a few days, in other cases several weeks.

As a rule delirium tremens continues two to five days, now and then longer. When it has occurred twice or three times the danger to life is not insignificant; it is especially the weak heart that quite often fails suddenly. These patients, particularly when not under institutional care, incur injury by falls, which may be serious; now and then the *exitus lethalis* is the result of suicide or an alcoholic epileptic seizure.

The polyneuritic mental disorder in the inebriate is a very serious disease, in whose development some infection, besides the alcohol, seems to be implicated. As the neuritis affects the vagus and phrenic nerves, only a very careful electrical and hydriatic treatment can prevent cardiac or respiratory paralysis. After many months, often after one to two years, the confusion improves, the disorientation ceases, the perversions of memory disappear. But occasionally the polyneuritic alcohoic psychosis terminates in permanent mental enfeeblement.

When the acute alcoholic psychosis is over, which

rendered admission to a hospital necessary, and the convalescent has in a measure regained his strength, he is to be discharged as a rule; the good lessons he has learned in the hospital, the firm resolves he made when anxiety troubled him, and the discretion he possesses so long as he remains sober, will be soon forgotten among his comrades, who do not understand the seriousness of the situation. The man soon begins to drink again—very moderately. A thousand experiences teach that moderation for those who have once been insane from alcohol, is absolutely inadequate that the once disordered nervous system, even from small doses, loses its tone, the will its energy. Only complete abstinence from all spirituous beverages can save the person who has once been insane from alcohol; the physician should urgently advise this radical course with the greatest zeal, all his personal authority, in view of the fact that total abstinence is to be carried out by the person who has been psychically ill, not moderation. By it the endangered conserves all his nerve force to resist; by the latter he will be led to drink more at times, when his energy is weakened by small amounts of the poison so pernicious to him in the uncommonly hard struggle against temptation. In time, if he has taken only small amounts of the alcoholic beverage, he cannot continue the struggle, he must succumb! Practically, the question of moderation or complete abstinence is of material importance. If a person has once been insane from alcohol and he has actually become a total abstainer, his reinstatement in a responsible position can be better recommended than when he constantly subjects himself to the danger of again becoming psychically ill. Every physician, every person, who has observed the terrible misery of the inebriate's family, and has seen how peaceful, happy, seemly relations may exist between man and wife or between parents and children by total abstinence, will have little regard for the sacrifice the inebriate makes in renouncing two glasses of beer, and will take the trouble to impress upon him that it is an imperative duty to be enforced by all means, that he must drink no more. No one begrudges the healthy person, the strong man, a mod-

erate quantity of alcohol for refreshment; but only abstinence for the one who has been insane from alcohol, the epileptic or the person in any way thus endangered psychically. The prognosis of the trouble depends on the attitude toward abstinence! The inebriate's character is capable of regeneration by total abstinence; his vulgarity and brutality, his egotism, his irritability and volitional weakness disappear, if he voluntarily or forcibly remains sober. This change often requires months, years even. The former inebriate is not to be recognized, he is industrious and discrete and remains so—so long as he abstains.

It must not be overlooked that usually those persons become insane from alcohol, who are congenitally constituted with little power of resistance for various deleterious agencies; this fact impairs the prognosis in alcoholics, and equally in morphiomaniacs and cocaineists, who are still more seriously damaged by the habitual use of the poison.

Among morphiomaniacs the signs of psychical disease; mental deterioration, ethical blunting, weakened volition, sometimes appear after a few months, again not for years. The prognosis on the whole is very bad. Withdrawal almost always succeeds, when scrupulously carried out in a closed institution, but relapses are infinitely frequent—particularly when pain occurs and there is little difficulty in getting the drug, as among physicians, their wives, apothecaries, chemists, nurses. Chronic heart troubles occasionally develop, which prove fatal. Serious physical deterioration often results.

The duration of morphinism varies greatly, it may exist for many, many years, indeed decades, ere life is endangered.

The cocaineist becomes anti-social much earlier. The psychopathological symptoms consist of false sensations, often of obscene nature, and ideas of persecution, jealousy, etc., particularly with retained consciousness. Cocaine delirium, in which very dangerous acts may be committed, ceases quickly when the extremely dangerous drug is withdrawn. The danger of return to cocaine or other poisons is very great; therefore and owing to the serious impairment

of the physical health, the prognosis in cocainism is very grave.

The acute psychical diseases from other vegetable or organic poisons are more rare and their prognosis depends on the amount taken. It is to be mentioned that acute mental alienations occur from hashish, opium, atropine, santonine and laughing gas (nitrous oxide), and some are distinguished by such characteristic false sensations, that it is often possible to make the diagnosis of the poison taken with some certainty from the contents of the hallucinations.

In various technical vocations substances poisonous to the nervous system and the psyche are employed. Lead, mercury and carbon bisulphide are to be especially mentioned. Recognition of the symptoms may be of great value in the prognosis; for if the deleterious agent in question can be avoided, the psychical symptoms will disappear, whereas if its action continues, more permanent, even incurable psychical diseases develop. Lead in this respect is as dangerous in its metallic state as in its compounds, (white lead, lead pigment, red lead, sugar of lead, etc.). Compositors, laborers in accumulator plants, painters, etc., frequently suffer from its effects. The lead psychoses, particularly frequent in France, are characterized by false sensations, confusion and forgetfulness; simultaneous derangements of the peripheral nervous system, lead colic, lead gums, are often found. Mercury produces states of excitement; they are observed most in hat and mirrors makers. Carbon bisulphide is employed in rubber factories and in the extraction of fat, rosin, oils, etc. Here it is first a matter of excitement, then of depression, finally of weakness of memory and mental enfeeblement.

Hygienists have most properly insisted that protective measures be provided in such industries to protect the laborer from these dangers.

Delirium occurs in a number of somatic diseases during the fever from the action of organic poisons. This is particularly true in erysipelas, articular rheumatism, pneumonia, typhoid fever, scarlitena and variola. The symptoms chiefly consist of stupidity and false sensations. In adults it is

the very severe cases which are complicated by febrile delirium; consequently the prognosis of cases with delirium is very grave; if the somatic disease does not result in exitus, the delirium ceases with the decline of the fever and psychical recovery occurs.

Intermittent delirium instead of exacerbations of fever is a special condition in malaria. The prognosis, irrespective of the danger of suicide, is favorable.

The initial delirium occurring in typhoid fever, occasionally observed before the onset of the fever, is a very dangerous symptom and about half of the cases die. The cortical ganglion cells present marked pathological changes.

Prior experience teaches that the delirium of rabies, after it has once broken out, always terminates fatally; whether this will be modified by the serum treatment is still unknown.

A number of acute psychical affections follow the decline of the fever in somatic diseases: two factors are responsible: first the toxine, second the exhaustion. When the effect of the toxine predominates, false sensations and delusions generally prevail, without consciousness being essentially clouded, thus hallucinatory insanity arises, which usually recovers after a few weeks or months. If it is more a matter of exhaustion, confusion is developed and that of collapse delirium, when debilitating agents have a rapid and intense weakening action on the body and particularly on the brain, and amentia, when they act more gradually. An exhaustive psychosis does not need always to be excited by a febrile disease; other enervating factors may have the same etiological effect.

In collapse delirium, as in amentia, the psychosis is acute in onset, the symptoms are very grave, particularly in the early stage of amentia, lasting about two to four months, and during the whole course of collapse delirium, terminating within a few days to two weeks. The completely confused patients are constantly excited in collapse delirium, they shout for no reason, throw themselves about the bed or aimlessly run about the room, injure themselves and quickly expend their strength, so that they die, if the

most careful treatment is not instituted at once and carried out. Fortunately one special treatment is very successful. Subcutaneous injections of normal saline solution for four, eight or twelve hours, warm baths in constant temperature, padded bed. Special care day and night to prevent injuries. Over-feeding, possibly with the tube, are the special measures, which in conjunction with various roborants, cardiac tonics and sedatives, respectively mild narcotics, may occasionally be the means of directly saving the life. Bed treatment, if possible, which in the care of all physically weak and excited insane, is of the greatest advantage and by which the modern insane hospital has really been transformed from a mad-house or lunatic asylum, is of course imperative with these patients, in spite of all the difficulties! If it is possible to keep the patient alive with collapse delirium or amentia during the excitement, so wasting the strength, recovery generally occurs quickly and completely.

Exhaustion from cholera, severe pneumonia, as well as a large hemorrhage or intense emotional excitement in weak, debilitated persons, is the cause, as a rule, of collapse delirium; amentia, acute confusion, more often results from typhoid fever and articular rheumatism with constant worry in those very anemic. Amentia is the characteristic psychical disease of confinement and as such was spoken of by Dr. Weber of this society very soon after Fürstner's paper. Other psychoses occur in the puerperal state; acute confusion or amentia at this time, formerly called puerperal mania, is the most important puerperal psychosis.

In the prognosis of amentia its great tendency to recur after apparent recovery is to be remembered; the patients must be kept in bed for weeks after regaining self-possession, properly nourished, well cared for and protected from all emotional excitement and stress. With slowly regained strength the eventual recovery takes place gradually with marked gain in weight.

The danger of suicide exists in all its stages; the first stage of characteristic confusion is the most dangerous in this respect, especially if there are imperative hallucinations

A fatal termination is not very common in hospitals, yet it occurs in extreme excitement or very poor states of nutrition, occasionally in spite of all treatment. Milder cases last 2-3 months, the severe a year or more.

We find the confusion of amentia depicted in Faust's Gretchen, in Shakespeare's Ophelia; V. Bodenhausen's picture known as "Das Märchen" is a fine physiognomic representation of patients with amentia, who might appreciate all that goes on about them, but are unable so to do owing to the dissociation of their thoughts; who listen to the voices they hear, see fantastic forms and are often in great ecstasy for days at a time.

Analogous to the frequent combination of toxic agencies and the factor of exhaustion, we often find those of hallucinatory insanity and confusion, and as well after puerperal states as after febrile disease.

Individuals especially predisposed have febrile delirium during fever and amentia from exhaustion after its decline.

It is not to be forgotten that various other psychical diseases may be induced by febrile affections or exhaustive conditions. This is true of course of paresis and attacks of periodical mental disorder. Adequate instances have been afforded in a large number of epidemics, e. g. in those of cholera and influenza.

I can of course only briefly outline the prognosis of mental diseases within the scope of so short a paper. Each case of the same disease naturally has its special prognosis, according to the mental and physical condition of the individual prior to the psychical disease, the health of the family, the severity of the case and personal power of resistance, as well as the care and treatment that are and can be employed. I must refrain from going into this more fully, I must also forego touching upon the prognosis of the borderland cases between nervous and mental diseases, as interesting and important as they are to the general practitioner. I will only call your attention to the fact, that the neurasthenic diseases, as you know, are all more or less associated with psychical symptoms and that the prognosis of the purely acquired neurasthenic insanity is very favor-

able, provided it is possible to remove its causes, when the patient can afford the necessary brain rest and he was well before the psychoneurosis.

I must further refrain from speaking of the prognosis of the complicated conditions in epileptic and hysterical insanity; the prognosis of degenerative insanity of ever great clinical, social and forensic importance, including insanity from imperative conceptions and sexual perversity will be omitted from my present considerations.

But we have a few important prognoses to speak of, which cannot be passed over: that of paranoia and dementia praecox—also in the greatest possible brevity!

In paranoia a permanent, fixed systematized delusion, of whose reality the patient is thoroughly convinced, is developed very slowly, usually in the third or fourth decennary, with fully retained self-possession and mental clearness. The patient thinks and acts deliberately in accordance with his delusion. All his views of life undergo a complete and life long change through his delusion, whether it refers to his attitude toward others, his personal relations or his own body; his estimate of himself is changed, the stand he took toward others is completely "deranged!" This disease process causes no physical derangements and in no way endangers life. The trouble affects the associations paths exclusively; the project paths of the brain and cells of the medulla and spinal cord are intact. The patient can occupy himself mentally and physically, when his delusion permits—his psychical disease progresses very slowly, so that quite often the paranoid first manifests systematized ideas of persecution, then after many years explains his persecutions by grandiose delusions, and after decades becomes generally weaker mentally. False sensations may be present, they may also be wanting.

All paranoiacs do not by any means require to be committed, *i. e.*, the constant care of an insane hospital; a portion become even worse in the hospital, where the unavoidable restriction of personal liberty is very hard on them. Dangerous paranoiacs must however be restrained, especially those with paranoia querulatoria, who annoy the

authorities, a special form that has been called querulant insanity, must be committed to the insane hospital for a longer or shorter period, after many vain attempts to pacify, owing to their inordinate abuse and insults, for which they cannot be punished.

While the prognosis of paranoia is in general absolutely unfavorable, it must not be overlooked that cases of this disease may essentially improve, often only temporarily, but sometimes for many years. Years ago we had at Sonnenstein a fine paranoiac in the person of a court clerk, father of several children, who was brought to the hospital on account of systematized delusions of persecution. The prognosis with respect to recovery was very poor. We were asked every quarter by his superiors, who must eventually give his position to someone else, whether recovery was to be expected or chronicity must be admitted. For his family's sake we again and again deferred our decision. Wholly unexpected to us a marked improvement gradually occurred, his great nervousness subsided, he learned to control his excitement, occupied himself with this and that and talked to us, which he had not done for months, owing to his distrust and dejection. He has now been at his work for two years; he performs his duties satisfactorily, is reserved and has little to do with others, but is able to do his work and support his family. We are glad our reserve helped him to hold his position; still the future has grave dangers. Such remissions are rare in paranoia.

Another case shows how closely diagnosis and prognosis are related. A colleague made the diagnosis of paresis in a distinguished official in the Home Service. The chief, a wealthy man, was greatly concerned over the sad fate of his associate, inquired as to the probable duration of the disease and, when he learned it was usually only a matter of a few years, promised to pay the patient his full salary as long as he lived. But the diagnosis was wrong. The patient had paranoia, became ill about 35, was of a vigorous, strong constitution and with the freedom from care in the hospital may still live many decades. His chief has long been dead. He had the goodness to remember his

promise in his will; the patient's maintenance will have to be paid for a long time.

Not all paranoiacs remain intellectually intact and clear aside from their delusion; a very large number become more or less paranoiac and demented at the same time. Then the delusions are more fanciful, more conflicting, more unusual from the first, and the grandiose ideas, which under pathological conditions indicate mental weakness, become pronounced much earlier. These forms of paranoia, according to Kræpelein's position, are embraced under the name of dementia paranoides; they either occur in early life or senility and after a very few years lead to great mental enfeeblement, one rendering mental work absolutely impossible; but in the hospital these demented paranoiacs may long be usefully employed in farm work or gardening, as well as housework. Confusion with incoherent ideas of grandeur and persecution or mental weakness with indifference to everything, even their delusions, finally occurs.

As has been recently shown, one of the most common mental disorders is dementia præcox, and as well in the form described by Hecker as hebephrenia as in that by Kahlbaum as katatonia.

By hebephrenia we understand, as you know, a mental weakness beginning insidiously or with symptoms of an acute mental disorder, usually in early life. The majority of hebephrenics progressively deteriorate and eventually attain complete mental vacuity. Still a portion become only moderately weak-minded and may perform the few requirements of an easy position, one in glaring contrast to the family's social position. The son of a high official is only able to follow the simple calling of a copyist or gardener, *i. e.*, one purely mechanical, in spite of the best training, the most excellent schooling, of the greatest application. The milder forms of hebephrenia are much too often overlooked among poor people. Among the inmates of work-houses and prisons, among vagabonds and prostitutes are found—as well as congenital imbeciles—many hebephrenics, whose inability to work when at liberty is due to their disease, whose moral, ethical inferiority, respectively its

consequences, are not sufficiently regarded as pathological. First, when these deplorable creatures have fallen step by step, when their reputation and their physical health are seriously damaged, indeed destroyed, when their mental disease has made further progress, their psychical abnormality becomes clear to the great majority. And then cause and effect are generally confounded, the psychical decadence is regarded as the consequence of the bad mode of life; still inversely some cases of ethical perversity are not due to pathological defect. It is not very hard to separate these from the insane criminals and vagabonds, when the intellect is carefully tested and an exact, reliable account of their mode of life can be obtained.

The prognosis is especially grave in the katatonic form of dementia praecox so common in our country. The initial symptoms are so intense that the disease can rarely be mistaken. The diagnosis is not hard in the majority of cases. The peculiar postures, stereotyped gait, grimaces, the confused talk, repetition of the same words, sentences and movements, the senseless, negative resistance, long maintained mutism, the stupor, general indifference with retained perceptive faculty, etc., are to be kept in mind. The disease is quite often complicated, owing to the fact that in consequence of false sensations, delusions, the confusional, manic or depressive phases at different times, the special katatonic symptoms are often hidden by others more prominent. But if an anamnesis is available and the incidents of a long period of the disease reviewed, it is possible, after some observation, to make a diagnosis. Still in the protean trouble the special prognosis of the individual case is far from afforded by the diagnosis, which, as we have recently learned at Sonnenstein, can only be made with great reservation. For—if the great majority of the katatonics become weak-minded or demented—this terminal stage is often reached very late. In spite of the profoundest stupor, of the severest katatonic symptoms, a nearly complete abatement of the disease, a remission closely approximating health, may occur and such a remission—although occurring as a rule after a few months—may still appear

after three to five years and even longer duration of the disease. A katatonic remission may restore complete ability to work and discharge from the hospital to home surroundings may seem wholly unobjectionable, and it may last years, decades even. Whether after such long remissions the final terminal stage of the disease is always one of more or less mental weakness,—this important question has not as yet been sufficiently investigated! Only this much can now be said: it is very probable that every katatonic finally becomes demented. But when such long remissions occur and after so long a duration of the disease, when the facts as to the definite termination of katatonia have not been conclusively determined, we must consider the practical consequences if we are consulted, *e. g.*, regarding the annulment of an engagement, the sale of a business, etc. We must bear in mind particularly the presence of very severe katatonic symptoms does not justify the opinion, that the probable subsequent mental weakness must be of a high degree. We must remember that the katatonic, who is only slightly weak-minded, is able to lead a satisfactory and happy life outside of a hospital, that he is able to do various useful things. To the laity such a person does not seem to be ill!

It is not to be forgotten that many katatonics die from exhaustion in states of acute excitement or from injuries they inflict on themselves, and that these patients unquestionably have a marked predisposition to tuberculosis. The superficial respiration during the months of stupor, mutism and apathy as well as frequent refusal of food, render it very probable that the tubercle bacilli, naturally infesting most over-crowded insane hospitals, here find favorable soil.

But if this somatic complication is excluded, patients with dementia praecox, katatonics as well as hebephrenics, may live to be very old. In Sonnenstein and in the city hospital of Dresden, there are patients who have been there for twenty, thirty and forty years. While the brain disease in paretic dementia leads to death, the fundamental disease process in dementia praecox, which consists of a

proliferation of a neuroglia in the brain cortex, rarely causing atrophy, is no hindrance to the continuance of life, particularly when the patients are protected from the injurious influences threatening them by persistent refusal of food, extreme uncleanliness, intense restlessness, etc.—in fact all dangers.

Very interesting is the marked improvement in chronic insane after febrile disease—especially after typhoid, malaria, erysipelas, severe hemorrhages and extensive suppurations. One of the first to observe this fact was our colleague, Professor Fielder. The improvements or recoveries the old alienists obtain in the insane from moxas, setons or inunctions of irritant ointments, evidently belong here. Whether the elevated temperature, the toxine or the increased metabolism in the brain cortex is the essential factor, is not clear. However recovery from psychoses in consequence of febrile somatic disease occurs only in the curable forms; in chronic psychical troubles it is merely a matter of a temporary abatement of inhibitions or delusions, a transient clearness, of an interest in the events of the immediate surroundings, soon to disappear again. This is not without prognostic importance.

You may have gathered from my statements, that in psychical diseases a clear prognosis is finally arrived at. It is only possible after the most exact diagnosis, and is, as we have said, dependent in many ways on the treatment of the individual case, and in one group of diseases on the future avoidance of the pernicious influences etiologically connected with the trouble. But psychiatry is still young and cannot compare in the matter of experience with its older sisters; in many complicated cases we are silent and have to admit that we are unable to make either diagnosis or prognosis, often after months and even longer. But these cases are instructive and by constant collection and comparison of clinical histories, we will advance in our knowledge of clinical psychiatry year by year.

A CASE OF PERIPHERAL ABDUCENS PALSY.

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I SOLATED palsy of the various eye muscles occurring as the forerunner or accompanying symptom of disorders of the general economy—while not of every day occurrence—are frequent enough to provoke only passing interest. But with our advancing pathology and nosology there is coming to be a decided rarity in *isolated peripheral palsies* not symptomatic but having all the marks of a true distinct morbid entity. The case about to be reported was studied in the service of Prof. Hansell at the Philadelphia Polyclinic.

Case 7932. A. H., spinster, aged 50, stated that barring her refractive error, (a high compound myopic astigmatism) she had never had any trouble with her eyes until 4 weeks before she appeared in the clinic. At that time she woke up one morning with rather cloudy vision and was troubled more or less with diplopia. The symptoms grew more pronounced the next day when she noticed that her left eye was crossed in. Study of the double images showed limitation of movement only in the direction of action of the left external rectus. The relative position of the images was that of classic abducens palsy. At this time, (disease under headway 4 weeks) the left eye was drawn fully 3mm to the right of the median line, and a 25 degree prism base out was needed to fuse the images when the eyes were in the primary position. Her corrected vision was $\frac{5}{6}$ of normal in both eyes, the irides

were equally and freely responsive to light, accommodation and convergence; and the visual fields showed no contraction for form or color. The ophthalmoscopic picture was typical of high myopia in both eyes. No history of trauma or any antecedent acute disorder could be elicited, save that she had had "rheumatism of the ankles" 2 years previously. She has always enjoyed fairly good health, appears well nourished, has lived a well-ordered life and is accustomed to sew 4 or 5 hours daily.

Family history. Nothing is known as to grandparents or as to maternal or paternal uncles and aunts. Her father died of some chronic kidney disorder, her mother of pulmonary tuberculosis. Of her 5 brothers, 3 died in childhood, one of enteritis, one of scarlet fever and one of cerebrospinal meningitis. Of her 3 sisters, one died of scarlet fever. The 2 brothers and 2 sisters living are all apparently healthy, but a fact that may have some bearing upon the patient's palsy is that they are all the subjects of more or less aggravated lithemic middle ear deafness.

The patient herself is practically deaf. No evidence of tubercle or any cardiac disorder. Repeated uninalyses were negative as to everything save a high per diem percentage of uric acid.

In the absence of any other signs or symptoms in the visual sphere, the case was referred to Prof. Wm. G. Spiller of the Neurologic Department, for further study. He reported that there were absolutely no symptoms of central nervous disease to be found, but went on to say that after much questioning he learned that the patient always slept with the head of her bed placed between 2 open windows with the door of the room also open. Moreover, that it was her habit to sleep on her right side so that the left side of her face was exposed to whatever draft might be blowing. Dr. Spiller further suggested that while such exposure alone could hardly give rise to a palsy so restricted as this one, that added to the rheumatic habit of the patient, it might possibly be viewed as the exciting cause.

For want of any other working hypothesis, the treatment was based upon this view of the case. She was

placed on a 2 grain to the ounce solution of strychnia sulphat of which she began with 10 drops ($\frac{1}{24}$ grain) 3 times a day adding 2 drops to the dose each day until she reached 50 drops, (gr. $\frac{1}{3}$) 3 times a day at which dose she continued for 4 weeks. She was also given $\frac{1}{16}$ grain of biniod of mercury 3 times daily for the first few days after which she took 10 grains of Soda Salicylat and 5 of Potass. Iodid after meals. As an aid to the action of these remedies, she had 2 Turkish baths a week.

As local treatment, the eye was cocainized and the external rectus muscle being grasped with a fixation forceps, the eye was carried temporalward to the limit of movement, (Michel's method). In addition to this, the palsied muscle was subjected to the Faradic current 5 minutes each day. The eye was first cocainized. The patient then grasped the positive sponge in either hand while I held the negative sponge in my left hand and touched the sclera over the insertion of the external rectus with the tip of my little finger. The strength of the current could thus be very nicely regulated by increasing or lessening the pressure on the sclera with the finger tip, or by resting one, two or three fingers of the same hand on the adjacent cheek or temple. These sittings were continued daily for two weeks, then tri-weekly, then bi-weekly, while for the last six weeks of the treatment a small two cell Faradic battery was applied daily at home over the closed lids.

Three months after I first saw her, the patient had regained full motion in the palsied muscle and enjoyed single binocular vision all over the binocular field.

The literature of the subject is rather meagre. Of statistics there are practically none. DeSchweinitz, (Dercum Nervous Diseases) believes syphilis and rheumatism to be the prevailing causes of peripheral palsies, but also warns as to their probable pre-tabcic nature. Mauthner, (Augenmuskel Lahmungen) is skeptical about the existence of true isolated peripheral ocular palsies and Savigneau, (Pathogenie et diagnostic des ophthalmoplegia, Paris, 1892,) takes practically the same ground. Jefferies, (Boston Medical and Surgical Journal Oct. 20, 1892,) says, "with the so-called rheumatic

peripheral palsies of the eye muscles so commonly referred to, I have little or no experience. Of some 50 or 60 cases of which I have records, there is but one that can fairly be considered as belonging to this peripheral group—if such group exists". In 1858 Alfred Graefe, (Klin. Anal. des Motilitats storungen des Auges, Berlin, 1858,) detailed the case of a middle aged man who unfolded the picture of isolated abducens palsy without any antecedent trauma or disease of the general or central nervous system, which he believed to be the external manifestation of some reflex neurosis. Two bona fide recent instances are: 1, that of Oppenheim (Lehrb. ker Nervenkrankh. Berlin 1898,) who says that "while abducens palsy is not uncommon with facial palsy of pontine origin, he has seen an undoubted instance of combined peripheral palsy of the 6th and 7th nerves, whether of rheumatic or infectious origin he could not say; 2, that of Haskovec, (Rev. Neurologie, Oct. 15, 1899,) similar to Oppenheim's case in that the abducens palsy was accompanied by facial palsy of the same side, both being peripheral. The subject of the disorder was a 20 year old married woman who developed these palsies 9 weeks after birth of a child. There was absolutely no other complications and the woman recovered completely in four months.

An experience with a considerable number of abducens palsies makes it extremely difficult for me to believe in the condition as a true morbid entity, but I am compelled by the most careful exclusion to put down the case I have reported as an instance of such palsy, if, as Jefferies so justifiably questions, "the condition exists".

KLEPTOMANIA AND COLLECTIVISM.

By JAS. G. KIERNAN, M. D., Chicago.

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KLEPTOMANIA, as a symptom of mental disorder, as I pointed out,* more than half a decade ago, was early recognized by alienists. The Utica school of alienists dominated by J. P. Gray† held that kleptomania was a term invented merely to excuse thievery. The other American school, however, headed by Ray Godding§ and Nichols accepted the view of Marc|| who reported more than half a century ago, cases where people, in circumstances, which should have placed them beyond temptation, stole from shops, articles to them, almost valueless, whose number and usefulness indicated mental disorder in the thief. According to many alienists kleptomania is always a manifestation of degeneracy, an episodic symptom—complex. Kleptomaniacs of this type may steal purely for the sake of stealing. In the vast majority of cases, however, kleptomania, as Lacassagne¶ shows, is a

*Jour. Amer. Med. Assoc. Nov. 14, 1896, P. 1066.

†Trial of Guiteau, Vol. II., P. 1674.

‡Two Hard Cases.

||La Folie.

¶Journal de Med. de Paris, Oct. 25, 1896.

morbid manifestation of neuroses and psychoses rather than a psychosis by itself. In many cases of so-called kleptomania, stealing is a manifestation of viciousness or feeble morality. Kleptomaniacs steal, but not all thieves are kleptomaniacs. While the kleptomaniac impulse of stealing for the sake of stealing does occur, still as a rule, determining psychologic and physiologic factors exist. Even the most seemingly absurd thefts often have secret determining causes, whose nature the thief fully recognizes. These "criminals on occasion" merit, as Lacassagne states, the benefit of extenuating circumstances, for often there is no premeditation, but merely the absence of conflict with strong desire, which however is not a morbid impulse. The majority of cases of both kleptomania and these thievings, occur in the department stores. Women often steal there and there only. "Bargain" sales are hence determining factors of theft. The display fascinates the customer, provokes desire and causes an intellectual conflict which often in the strongest woman leads at best to prodigal expenditure. Self-contained, economical housekeepers often succumb to temptation to waste more money than they dreamed of spending when starting out. If such be the influence on sound women what must be the effect on pregnant, climacteric and menstruating women, hysterics, neurasthenics, morphin-users, alcoholics, invalids, senilities and other persons whose mental stability is not on a level with their social status. These "bargain" sale thieves are often no more insane than other thieves, but they have much less power of resisting temptation. Brouadrel reports the case of a judge's wife, who, while pregnant, stole a roast goose from a store restaurant. Legrand du Saulle has observed another judge's wife who, in a similar state, stole 300 neckties. Lacassagne examined a pregnant woman of the upper middle class who had stolen by dozens, pocket-books, knives, scissors, etc., which she hid away, without using, in a garret.

Kleptomaniacs are a vivid feature of Zola's "Ladies' Paradise." Pure thieves use a pregnant woman as a shield. Three women, one pregnant, enter a crowded aisle

of the "Ladies' Paradise." While the inspector is watching the pregnant woman, whom he suspects of the kleptomaniac propensities of her state, her companions steal and escape with impunity when the alarm is given, leaving the pregnant one to bear the burden and plead her state.

Popular opinion of the irresponsibility of pregnant women is of long standing. Harriet C. B. Alexander,* in a paper read before the American Medical Association fifteen years ago, pointed out that as Ben. Johnson's plays demonstrate, English-speaking popular opinion early regarded the pregnant woman as irresponsible for her "longings." A most natural and just view, since on careful analysis of the mental condition of pregnancy, it is apparent that this is always affected by more or less morbid perturbations of the monarchic cerebral vaso-motor center, secondary to pelvic fluxionary changes, to irritative conditions, to exhaustion conditions and to pressure neuroses of cardiac, pulmonary, gastric, visceral, or peripheral neuric origins. The various "longings" of pregnancy arise from imperative obsessions either pure or dependent on perverted sensations, or from reverisons to early habits of the race during reproduction. Legally, these mental states predispose to kleptomania, either pure or resulting from a desire for possession dominating a weak will.

In many menstruating, most neurasthenic, all alcoholic, opio-phagistic, hysterical, climacteric and senile women, the will is also weakened so that they fall ready victims to obsessions and morbid impulses.

Kleptomania appears in all great cities. London police and "go-betweens" have lists of kleptomaniacs. The "go-between" lists contain about eight hundred women in easy circumstances, but very few men, a dozen at most. When a shopkeeper loses merchandise, he ascertains which of his kleptomaniac customers has visited him. He then asks the relatives by a cautiously worded circular letter, to pay for the lost article. Often the kleptomaniac has stolen nothing, but of this she is not certain and can not affirm

*Jour. Amer. Med. Assoc. Vol. IX, 1887.

her innocence. The relatives pay to prevent scandal. As a dozen families may pay for the same lost article, the shopkeeper profits by the theft.

The procedure adopted in Paris is different. The offender is not stopped in the shop, since it would be easy to drop the stolen object or to say that she was going to pay for it. An inspector, plainly dressed, follows her to the street and quietly but firmly invites her either to go to the police or to return to a special room of the shop to be searched. French shopkeepers are of the opinion that there are more kleptomaniacs than true thieves. They content themselves, as a rule, with compelling a restoration of the stolen articles. When an individual is detected they enforce a search of her rooms, which very frequently puts them in possession of the products of previous thefts. In Paris, out of millions of francs thus stolen yearly, but a few thousands are lost. The true thieves sell or pawn the stolen objects; the kleptomaniacs hide them away. In one case Lacassagne found 140 pocket books hidden away. Paris kleptomaniacs are known to come at fixed hours. Some steal very skillfully but with incredible affrontiveness. One who stole bronze figures was detected only through the absurd crowding of her mantelpiece with bronze figures.

Lacassagne divides the "bargain" sale thieves into four types: Pure thieves, "collectors," mental instabilities and the insane. The "collectors" closely approximate ordinary thieves. Men occur much more frequently among them. They are often in easy circumstances or even rich. They steal without need and almost the same things for the pleasure of possessing them. Bibliomaniacs and other faddists can not leave a bookshop or other collection without buying. These "collectors" have the same pleasure in stealing desired objects. These people may be feeble-minded and insane, but, as a rule, merit the severity of law as much for their own sake as that of society.

The mentally unstable are those in whom the desire to take, quickly occurs and who yield without conflict. They are usually rich or in very easy circumstances. Their will weakens rapidly in the seductive surroundings of the

"bargain" sale and yields readily to a motive more or less bizarre, but determining and obvious, such as vanity or coquettishness, even good sentiments. Others are seized by a vertiginous state caused by the noise and the crowd and become victims of morbid impulse. After several yieldings to temptation they become inveterate thieves, can not master their impulse systematically, weekly even, they return to steal, in order to experience the same fright and intense distress in which they have a morbid delight. The desire becomes irresistible. On analyzing it horrified at themselves, they experience the need of confession to a friend. Despite the most bizarre precautions against their penchant they succumb. In some cases suicide then suggests itself. In other cases the tendency is checked by legal procedures to which they voluntarily give themselves up.

To settle, even from the standpoint of the patient's welfare itself, the question of punishability is therefore not easy. One woman who bought forty dollars worth at a department store stole a sponge worth twelve cents. Another woman bought twelve dollars worth and stole a three cent pocket book for her cook. For this, she, a woman in easy circumstances gave the following inventively stupid excuse: "I have stolen," said she, "because having bought so many things I thought this small return due me." The insane are obviously irresponsible. Their thefts, as a rule, present characteristic, naiveté, puerility or morbidity.

Lacassagne, like Benjamin Franklin,* thinks the "bargain" store a serious social danger to the body politic. Women who never have stolen and who would never steal elsewhere find themselves bewitched, excited and take a true diabolic possession. In the midst of a hurrying crowd in the odorous, over-heated wealth suggestive atmosphere, the woman finds herself with clothing aptly adapted to hide stolen objects. At certain hours there are too few employes to serve the enormous crowd which waits its turn touching and taking goods whose splendor and variety bewilder. Certainty of detection would un-

*Essay, Poor Richard's Almanac.

doubtedly serve as deterrent in many cases, as Lacassagne remarks, it would be better, especially for the mentally unstable women, to catch the thief rather than merely to prevent theft.

The "collector" type is as a rule perfectly responsible. "Book snatching" is a besetting vice of bibliomaniacs just as coin and stamp purloining attacks numismatists and philatelists.

While kleptomania in the United States is legally a defense for crime it remains to be determined in each case whether kleptomania exists and whether it merely extenuates or completely absolves. Where states predisposing to mental instability exist the burden of proof of sanity is on the state. In the "collectors" the burden would be on the accused. Stealing of relatively worthless articles is by itself no evidence of insanity. Parisians think it "smart" to steal sugar and matches from restaurants. Not a few sane Americans think it is equally "smart" to steal rides on railroads.

Deterrent influences must be carefully adjusted to each case since as Lacassagne shows, the chief object of certain women in stealing, is to secure the voluptuous titillation, that worry and fright over detection gives them. On the other hand certain kleptomaniacs must be held responsible if they persist in visiting "bargain" stores when they have learned the danger of these to their mental stability.

There is no need for new legal principles in these cases. The common law properly interpreted in English-speaking states is amply sufficient to protect the rights of the accused and the community.

The mental state of the "collector" frequently in secondary and senile dementes, is one of the phases of mentality found in misers. Here the collectivism may coexist with seemingly great intellectual power. The instances cited by Merriwether[‡] where misers were charitable and public spirited fully illustrate this. One phase of this mentality is the "money maker on principle" who accumulates merely for the titillation of accumulating. Usually

[‡]Lives of Misers Who Make Long Prayers and Devour Widow's Houses.

this mentality is tinged strongly with alcoholophobia, sabbatarianism, religiosity and pseudo-philanthropy of the type so denounced in Pharisees by Christ and the Jewish prophets. The accumulation is made by abuse of that state socialistic principle under which all corporations are created and relieved from risks of trade as effected with a public use. The conversion of these into purely private property for speculative purposes creates the wealth of the "money maker on principle." Closely akin to the "money maker on principle" in his conversion of public property into private use is the member of

"Boodler's patriot band,
Fat from the leanness of the plundered land."

He carries into public life such commercial maxims as that a drummer is entitled to a commission on trade secured and that the warranty of a contract does not extend to patent defects.§ Under American public ideals he is looked upon as a thief. Under European he would simply be (that which he believes himself to be) a "business" man.

The mental state underlying thieving is sometimes an expression of subjectivism in the direction of self humiliation and hence of sexual origin. This psychologic factor underlies some thefts during pregnancy where, under the disturbance of mental balance, primordial instincts rise to the surface and dominate but often take the subjectivistic directions most natural to women.

§Judges have decided that a glass eye in a horse was patent defect and not vitiating a warranty.

SELECTIONS.

NEURO-PHYSIOLOGY.

TASTE AND THE FIFTH NERVE.—Some years ago Sir W. R. Gowers treated a case of disease which suggested to him strongly that the path for taste reaches the brain by the roots of the fifth nerve, as regards both the front and back of the tongue. A modern surgical procedure has since supplied the proof that he was correct in thus surmising. The operation in question is the removal of the Gasserian ganglion and adjacent part of the fifth nerve, known as “Krause’s operation” for neuralgia, from the distinguished German surgeon who introduced it.

Sir W. Gowers describes the technique of this operation in the *Journal of Physiology* of July 21, 1902, as follows: “It consists in trephining the skull and raising the cerebral hemisphere so as to expose the position of the Gasserian ganglion. As Victor Horsley performs the operation, the ganglion is seized by forceps and torn from the pons, bringing away with it a third of an inch or more of the roots of the nerve. The whole of the nerve is usually removed; it not being practicable to attempt to spare the motor portion. The effect of the complete removal of the ganglion and the roots of the nerve is to abolish all function, to cause anaesthesia in the whole region supplied. In five consecutive cases operated upon in this manner at the National Hospital for the Paralyzed and Epileptic, London, the sense of the taste was found to be lost.” Sir W. Gowers thinks that these facts constitute strong evidence that all the fibers of taste—at least in most persons—reach the brain by the fifth nerve.

A somewhat curious feature in connection with this phenomenon is pointed out: that no weight can be attached to the results of observations made during the first two or perhaps, three weeks after the operation. Some surgeons have found taste constantly abolished by the operation, and Sir W. Gowers draws attention to some sources of fallacy which might account for the discrepancy, one being that mentioned above—the fallacy of two early observation—and another, that the operation may have been imperfectly performed, some parts of the nerve not having been removed. Sir W. Gowers is positive that by some path the fibers for the taste do reach the fifth nerve, at least frequently, and pass to the brain by its roots.

It would be an interesting study in physiology to investigate by what route the taste impressions reach the fifth nerve, but it is so abstruse and hedged in with difficulties as neither to lend itself nor, perhaps, to commend itself as a subject for experimental research.—*Medical Record Editorial.*

GRANULAR DEGENERATION OF THE ERYTHROCYTE.—Stengel, White, and Pepper present a further discussion of the probable nature of the granules found in granular degeneration of the erythrocyte, and report the results of some observations undertaken with a view to determine, if possible, the location in which the degeneration takes place. From a large series of experimental investigations and the study of the blood in different diseased conditions they conclude that toxic causes of various sorts are capable of producing the granular degeneration, but that no poison thus far studied is as regular in its production of the degeneration or as prompt in its action as is lead; and they adduce considerable evidence to support their view that the granules are the product of a specific degeneration of the protoplasm rather than the result of changes in the nucleus.

NEUROTHERAPY.

A NOTABLE IMPROVEMENT IN THE THERAPY OF TYPHOID FEVER.—The recent discovery, by Duval and

Bassett, of the presence of the bacillus dysenteriæ (Shiga) in forty cases of infantile summer diarrhœa, awakens renewed interest in the subject of intestinal antisepsis. But a few months have elapsed since Drs. P. C. Freer and F. G. Novy, of the University of Michigan, demonstrated the enormous germicidal power of benzol-acetyl-peroxide, more familiarly known as Acetozone. Although the preliminary reports of these investigators were of necessity based upon results of laboratory experiments, their expectations are already being realized in clinical work, in the treatment of typhoid fever, particularly.

In the city of Chicago, where a large number of cases of typhoid have been reported, Acetozone has been used exclusively in the treatment of about 300 of them. The consensus of opinion is that it causes the temperature to decline earlier than usual in the course of the disease, and it ameliorates the mental and physical condition of the patient, in all probability by controlling the toxemia.

Two Chicago practitioners, I. A. Abt, M. D., and E. Lackner, M. D., have thus far reported (*Therapeutic Gazette*, October, 1902) forty cases of typhoid, in children, treated with Acetozone, with but two deaths, a mortality of 5 per cent. One of the patients that died succumbed to pneumonia and pulmonary edema, the other to great pyrexia on the fifth day. Stupor and tympanites were almost entirely absent in all the cases: the characteristic typhoid fetor of the stools was remarkably diminished, and the hemorrhage occurred but twice, and in the same case. The average duration of the febrile period, in 37 cases, after beginning Acetozone treatment, was 13½ days. The drug did not seem to act upon the heart or respiratory apparatus.

Early this year Eugene Wasdin, M. D., of the U. S. Marine Hospital Service, Buffalo, N. Y., reported 27 cases (*American Medicine*, Feb. 8, 1902) of typhoid fever, 24 of which were treated with Acetozone, all of the patients recovering. The writer says:—"Its application in typhoid fever has been followed by very happy results; its use has been directed to the destruction of the germ in its primary

lung colony and also in its secondary intestinal colony, and it has been used by hypodermoclysis to combat terminal expressions, with the result that in 24 cases the disease has been limited almost entirely to the expression of intoxication from the primary focus, the intestinal symptoms remaining entirely in abeyance, and the disease has been shorn of many of its most disagreeable features."

In a second paper, which appeared in the *Therapeutic Gazette*, for May 15, 1902, the same writer states that his patients were given from 1500 to 2000 Cc. of the aqueous solution of Acetozone daily. The diet was milk diluted with the same solution. The first influence of the drug is observed in the increased secretion of urine. That this is not due wholly to the indigestion of large quantities of water, necessitated by the use of the saturated solution, is evident from the author's assertion that the same result was observed when Acetozone was administered in capsules. The second influence to which attention is directed is the very pronounced decrease of the odor of the stools, while plate cultures from the dejecta showed comparatively few germs.

The deodorant and diuretic effects of Acetozone were also observed by G. H. Westinghouse, M. D., of Buffalo, (*Buffalo Medical Journal*, August, 1902) who used it in seven cases. This observer remarks that with the increased flow of urine "a corresponding reduction of typhoid symptoms followed, and tympanites and delirium disappeared." It should be remarked that the diagnosis in all these cases, as well as in most of those reported by the Chicago physicians, was confirmed by Widal's reaction and Ehrlich's test, and in some a blood-count was resorted to. Westinghouse concludes his paper by saying that "Acetozone, as an intestinal antiseptic, is unequaled by anything I have ever employed. A complete subsidence of all the bowel symptoms followed in every case of typhoid within a few days after beginning its use. The application of the anti-septic consisted, in most cases, in simply allowing the patient to drink the saturated aqueous solution *ad libitum*; or, in other words, substituting this solution for all other

liquids, and urging the patient to partake of it freely when the natural craving was not sufficient to the consumption of considerable quantities."

MUSIC WITH ANESTHETIC PROCEDURE.—Laborde (*La Medicine Moderne*, May 15, 1901) reports his results with the use of the method of Drossner for the production of anesthesia by nitrous oxid gas. This consists in fixing the patient's attention by means of music just before beginning administration of the anesthetic. Thus the dread of the anesthetic is greatly lessened, it is inhaled more freely and quickly, and during the anesthesia the music often forms part of an agreeable dream; furthermore recovery is much more rapid, without the sensations of fright so often experienced. Laborde thinks this procedure may be of great service in producing other forms of anesthesia.

THE PRESSOR SUBSTANCE OF THE PITUITARY BODY.—Schafer and Vincent called attention to the existence of two substances in the infundibular part of the pituitary body. One producing a rise and the other a fall of blood pressure. These two bodies were called the pressor and depressor substances. The pressor substance is soluble in salt solution and insoluble in alcohol and ether. The depressor is soluble in all three. The active substance is not destroyed by boiling. F. Golla (*Lancet*, February 15th, 1902) has made some experiments to determine the medicinal use of the pressor substance.

For clinical purposes, the pressor substance, purified by repeated washing of the alcoholic precipitate with ether obtained from 80 gr. of the dried infundibulum, was dissolved in 30 minims of normal salt solution. The injection of 3 minims of this solution into the mucosa of the lower jaw, caused a local vasoconstriction; the mucosa remained blanched for about forty-five minutes, for a considerable area around the point of injection. On injecting 5 minims subcutaneously into the right forearm, there was a perceptible pallor of the finger nails for a few minutes. The pulse

rate fell from 95 to 84, and the wave was appreciably fuller. A subcutaneous injection of 8 minims of the saline extract was given to a patient with advanced Addison's disease. The radial blood pressure was 120 mm.; the pulse rate 100. Two seconds after the injection, the patient complained of a sudden spasmodyc contraction of the muscles of the arm and fingers. Immediately after injection the radial pulse almost disappeared, but this was found to be due to local muscular spasm. Previously to the injection the patient had complained of feeling uncomfortably hot, and a couple of minutes afterwards he spontaneously remarked that "all the heat seemed to have gone inside." Two hours after the injection the pulse was 80 and much stronger and fuller. The patient still complained of feeling cold at the extremities. Three hours after the injection the blood pressure was 135 mm. There was marked diuresis during the twenty-four hours succeeding the injection; the urine was acid with a specific gravity of 1010. There was no glycosuria, an effect frequently noticed after suprarenal injection. Golla has taken considerable quantities of the pressor substance by the mouth, but has never seen any result, although the substance is unaltered by peptic digestion and is dialysable. The pressor substance would appear to be proteid in nature. The iodine found in the pituitary body is not apparently in combination with the pressor substance. Its cardiac, vascular and diuretic action would indicate that it may prove to be of service in cases of heart disease.

EPIDURAL INJECTIONS.—Chipault claims that (*La Tribune Med.*, Feby. 5th, 1902) as a means of surgical anaesthesia, epidural injections give results too inconstant to justify its introduction into general practice. It is of value however in neuralgia and neuritis. The solution of most value is that of cocaine hydrochlorate in the proportion of one to a hundred. The epidural method has indications very different from the sub-arachnoid. The duration of the effect produced varies widely.

CLINICAL NEUROLOGY.

HYSERIC TYMPANITES, according to Talma, results from a diaphragm contraction, permanent in character, but slightly marked and demonstrable with difficulty on pulmonary physical examination (*Berlin Klin. Wochenschrift*, Feb. 3, 1902.) Partial tympanites causing a circumscribed tumor may result from the same cause, if there be added partial transverse contraction of certain abdominal muscles and laxity of others. Phantom tumors are often of this origin. These tumors may be part of a general hysteria or may be its sole manifestation.

NERVOUS SIALORRHOEA, according to A. Acquaderni, is produced either by direct irritation of the salivary center in the medulla, or by abolition of the forebrain moderating influence, or by stimulation of the secretory tracts of the hemispheres or through a lesion irritating the sensory nerves. In central facial paraplsis, the salivary secretion of the affected side, if influenced at all, is increased in quantity. Other observers than Acquaderni, have found a change in the quality of the secretion. In peripheric facial paralysis, abolition or diminution of the secretion, results according to the gravity of the lesion. The prognosis of sialorrhoea depends upon the disorder in which it occurs (*Revista Crit. et Clin. Med.* March, 1902). In some instances it indicates the progress of the disease and where other bulbar symptoms are absent, involvement of the medulla. Sialorrhoea from its effects on digestion at times considerably impairs the condition of the patient. It is exceedingly common to idiots, epileptics, secondary and paretic dementes.

CHOREA INSANIENS.—Dr. J. G. Kiernan (January meeting of the Chicago Academy of Medicine) reported a case of chorea insaniens. Conditions producing shock to the central nervous system result in adynamia under which term the older clinician had understood a nervous weakness disturbing the entire organism. The nervous system is first visibly affected and then the heart which

fails as from shock or toxic influence. Metabolism and nutrition are diminished. This condition results from traumatism, worry, emotional strain, the essential fevers and any toxic state. Upon this state occur motor or psychic disturbances or both combined. Two psychoses peculiarly developed. Either may be fatal but while one has definite pathologic lesions, the other is destitute, as a rule, of these. One of these is primary or acute confusional insanity and the other is typhomania (the acute delirium of the Germans, French and Italians, the Bell's disease and delirium gravis of English and American authors.) This last resembles in its superficial clinical features primary confusional insanity but differs from it in the furibund character of its pathologic lesions, in its deep seated dementing manifestations and as a rule in its high temperature which has sometimes reached 108. Both acute confusional insanity and typhomania evince disturbances of motility. There is first observed a convulsive condition which, in the least violent manifestations, appears to arise from the mental condition but which soon becomes more intense. The patient is agitated, very frequently grimaces, grinding of the teeth and convulsive manifestations of all kinds are observed. When these phenomena have acquired their greatest intensity they assume the rapidity of electric discharge. Among motor disturbances most apparent at an early period, are choreiform states. These whether occurring as a consequence of acute confusional insanity or typhomania were early placed by Berndt in a symptom group; *chorea insaniens*. The title is somewhat misleading albeit the misleading elements have been removed by time. Independently of *chorea insaniens* there are mental symptoms which complicate chorea. The distinction lies in the fact that in these last the mental state is an incident of the neuroses. *Chorea insaniens* does not differ as to its mental symptoms from the psychoses in which it occurs. It is much more frequent in males than is usually assumed since most males are taken to insane hospitals while the females (as is but too frequently the case in other psychoses) remain under home treatment. A nineteen year

old girl was on an elevated train when a collision occurred. On her return home she became nervous and agitated and mentally somewhat confused. Four days after she was seen by a physician who found her in a state of mental excitement within coherent speech and with uncontrollable twitching of the muscles of the body. She gradually became unconscious and lost control of the sphincters. There was a temperature of 102°. The patient died. Necropsy by the coroner's physician revealed what he called acute cerebral meningitis. There were deposits of lymph over the brain. The history of this case and the lesions would indicate "chorea insaniens of the typhomaniac type."

THE WESPHAL-PILTZ PUPIL REACTION.—Meyerhof claims (*Medical Record*) that Wesphal and Piltz did not first describe the phenomenon. Its presence in certain conditions and its diagnostic importance had previously been pointed out by Wundt, Raggi, Molli and Galassi. Av. Graefe had described the diagnostic importance and advocated its therapeutic use in treatment of immobile pupils. He was of the opinion that this pupil movement is complementary to the movement of the obicularis muscle of the other eye. It still to-day seems certain that this view is correct. Several authors hold that the phenomenon is brought about as the result of pressure of the lid as it closes over the eye-ball. This view is disproved by the following facts: First—if the eye is closed but the lid held away from the eye-ball so that it exerts no pressure thereon, the phenomenon is easily produced. Second—Pressure with the finger directly upon the eye-ball fails to elicit the reaction. Third—Pressure upon the eye-ball does not cause congestion of the blood-vessels of the iris, as has been claimed. Fourth—Experimental researches have shown that congestion of the blood-vessels of the iris does not produce myosis.

A NEW CURE FOR NEURALGIA.—A recent number of *La Nature* publishes a remedy for neuralgia which is said to have been used with good results. Neuralgia preceeds

sometimes from a lesion, or functional derangement of the nervous centers, and sometimes from an inflammation of the nerve, and is accompanied by pains peculiarly violent. The complaint is also extremely rebellious to treatment; in many cases no relief can be gained except by the most radical measures.

Dr. Cordier, a surgeon of Lyons, has thought out a mode of treatment based on the fact that in certain cases of obstinate sciatica the nerve has been cut down upon and drawn. M. Cordier thought that if the peripheric network were treated in a similar way, the effects might be as beneficial. In order to distend the network of nerves he has used gaseous injections and insufflations of air.

The ordinary hypodermic needle is sufficient to make the insufflations of air, and a rubber ball will serve as an insufflator, but small bellows, like that of the Potain apparatus, will answer the purpose better. To remove all danger of infection a glass filled with sterilized wadding can be placed between the rubber bulb and the needle.

The needle is then buried in the cellular subcutaneous tissue, when a certain quantity of air, variable according to the locality, is slowly injected. This procedure is followed by a distention of the skin resembling a ball. In order to bring about the distention and elongation of the fine nervous terminations, M. Cordier states that vigorous massage should be practiced over and in the neighborhood of the air ball, so that the air may be diffused.

The results of this treatment are declared to have been very successful, according to the initiator of the remedy, who claims to have had but two failures in twenty-five cases of sciatica treated in this way.—*Medical Record* Editorial.

PHILADELPHIA NEUROLOGICAL SOCIETY.—At a stated meeting, held March 25, Dr. Max H. Bochroch exhibited "A Case of Adiposis Dolorosa." The patient was a woman with huge masses of fat depending from the upper arms, the buttocks and loins and the thighs, while the forearms and hands, the legs and feet, and the face preserved their

normal proportions. The fatty deposit was the seat both of spontaneous pain and tenderness. Dr. F. Savary Pearce exhibited "A Case of Adiposis" in a colored woman, in whom, however, the element of pain was wanting. In other respects the clinical picture was much like that presented by the case first exhibited. Dr. Wm. G. Spiller read a report of "Two Cases of Involuntary Muscular Contractions of the Face," the one being an example of spasmodic tic, in which great relief was conferred by applications of electricity. The other occurred in a patient with paralysis agitans without tremor, and the movement was thought to be of associated character. Dr. Spiller reported also "A Case of Primary Degeneration of the Pyramidal Tracts without Muscular Atrophy." Dr. A. A. Eshner read for Dr. S. Weir Mitchell a paper entitled "The Muscular Factors Concerned in Ankle-clonus." It was shown that when ankle-clonus is excited, with the leg placed in the situation most favorable for inducing this reflex movement, namely in that of slight flexion, the soleus alone is the responsible factor, the gastrocnemius being relaxed by reason of its attachment to the femur. Dr. Chas. K. Mills presented "A New Scheme of the Zones and Centers of the Human Cerebrum." Dr. John K. Mitchell described "An Unusual Form of Foot-clonus" occurring in a woman with lateral clonus of the foot, and clonus of the great toe in addition to other phenomena of exaggerated reflex activity, lateral nystagmus and scanning speech. Drs. Chas. K. Mills and J. W. McConnell described "A Group of Brachial and Pectoral Reflexes" in a man presenting symptoms suggestive of meningo-myelitis. When the outer extremity of the clavicle was struck with a percussion-hammer, the forearm was slightly flexed on the arm, and when the upper portion of the sternal attachment of the pectoral muscles was struck, some of the fingers were extended.

CHRONIC HEMIANESTHESIA of Over Eight Years' Duration, Resulting from Destruction of the Carrefour Sensitif and Lenticular Nucleus.—By F. X. Dercum, M. D., and William G. Spiller, M. D., of Philadelphia.—The case

was that of a mulatto who had been under observation at the Philadelphia Hospital with a right-sided hemianesthesia and right homonymous hemianopsia, persisting over seven years. The symptoms had followed an apoplectic seizure, the resulting motor hemiplegia being slight. The patient finally died of a second apoplexy, the lesion involving the right side of the brain. At the autopsy an old cyst was found in the left hemisphere, implicating the *carrefour sensitif* and lenticular nucleus. The thalamus was intact, except in so far as it was implicated by secondary degeneration. The motor fibres of the internal capsule were merely slightly implicated. The affected area was studied by serial microscopical sections.—*Proceedings American Neurological Association.*

NERVOUS AND MENTAL DISEASES—Palmar Reflex.
J. H. W. Rhein, Philadelphia, publishes a preliminary note: While studying a case of hemiplegia recently he observed what seemed to be a hitherto undescribed reflex. Slight irritation of the palmar surface of the hand with the point of an esthesiometer was followed by an extension of the hands and fingers. Sometimes only the hand was extended, sometimes only one or more of the fingers. The arm was not drawn away in a manner analogous to the withdrawal of the foot when the plantar surface is irritated. He has also observed this reflex in one other case of disseminated sclerosis. A study of the literature has resulted in finding no description of any such reflex. He intends to describe this condition more fully at a future time.—*Medical Record.*

FLOATING KIDNEY AND NEUROSIS.—Henry D. Beyeo, M. D., of Philadelphia (*American Medicine*).—In his experience, from ten to fifteen per cent of gynecological patients have floating kidneys producing symptoms, the right kidney being the one usually displaced. He considers the presence of nervousness, pain in the loin, perhaps with indigestion, as a sufficient index for careful study, with necessary repeated physical abdominal exam-

inations for floating kidney,—gastrophtosis and enteroptosis. The digestive disturbance is usually chronic, and is accompanied by intestinal fermentation, flatulence, and often by a chronic mucous entercolitis, which he considers a neurosis, a reflected nervous disease extending through Auerbach's or Meissner's plexus. The dragging pain in the loin, extending down to the groin and into the thigh of the affected side, he finds is the most frequent and characteristic symptom, and directly referable to change of position of the mobile kidney. The severity of the nervous symptoms depends upon the degree of mobility of the kidney, and are chiefly restlessness, insomnia, cardiac palpitation, and symptoms of profound nervous exhaustion.

MEDICO-LEGAL NEUROLOGY.

A CONTRIBUTION TO THE STUDY OF SUICIDE.—By L. J. Rosenberg, L. L. B., and N. E. Aronstam, M. D., Detroit, Mich., members of the Medico-Legal Society. At all times and among all peoples there have been men who have by their own free act and deed put an end to their terrestrial existence. Among the Brahmins and Buddhists suicide was prevalent, their religious doctrines favoring, nay even encouraging it. They regarded terrestrial existence as a mere threshold to a more blessed region; hence dissolution was an object most desirable to attain. In early Egypt, too, suicide was not uncommon; indeed, it was frequently regarded even honorable. Thus, when Rameses the Great became blind he deliberately curtailed his earthly career. Among the Jews suicide was very little practiced. Inasmuch as the doctrine of a future world was hardly known among the ancient Hebrews, they endeavored to make the most and the best of this world. Thus, the Pentateuch only relates four instances of suicide: Sampson, Saul and his armor-bearer, and Ahithophel. In old Greece, when art and esthetics were flourishing, suicide was of very rare occurrence. Later, however, with the advent of the schools of the Cynics, many of the best minds of Greece were

poisoned with the desire of self-destruction. Stelpo, Diogenes, Menedimas, Anesicratus, Deinonax and Peragrinus died by their own hand. With the stoics and epicureans the practice of suicide became still more in vogue. Zeno, Demosthenes, Clientes, and their disciples, all voluntarily terminated their lives.

In Rome suicide was popular. Seneca and Cato not only advocated but also practiced it. Brutus, Cassius, Lucian, Mark Antony, Nero, and many others of historic fame, all entered the subterranean precincts of Pluto on their own accord.

The Christians of the early centuries, in order to escape torture and persecution, and also frequently to hasten their entrance to the celestial kingdom, so that they might enjoy the gift of heaven, had recourse to suicide. Again, some—because of an impulse to become martyrs of their faith—resorted to suicide as a means to attain the desired end.

The causes and reasons of suicide are varied and numerous; yet, multitudinous and complex as they may seem, they can be classified in two divisions; (1) *Pseudo-suicide*; (2) *genuine* suicide.

By *pseudo-suicide* we mean all those suicides committed *rationally*. These are usually executed for one or two reasons: either to gain something more precious than our earthly existence, or to escape misery and torture far worse than death. Of this class were most of the suicides perpetrated by the ancients.

Genuine suicide denotes all those cases where reason was hardly consulted. To this class belong fully eighty per cent of the modern suicides. The average case of present-day self-destruction is not because of sacrifice, so that others may profit by the individual's death, nor is it because of persecution or intolerable fortune, but because of some *inherent tendency* or a *suicidal predisposition* to which the slightest exciting cause is all-sufficient for its occurrence.

Statistics and statisticans prove in cold figures that suicide is on the increase. The complexity of demands which our civilization puts upon man, and the difficulty of the at-

tainments of those demands, weaken the *vis resistentiae* to such an extent as to oreate permanent lesions in our physical organism, conducive to a fluctuation in the domain of violation. To speak with Marselli: "The progressive increase of suicide . . . is not possible to explain otherwise than as an effect of that universal and complex influence to which we give the name of civilization."

The desire to live pervades all organic life—both animal and vegetable. The instinct of self-preservation governs man even in the very face of death; not alone is this instinct implanted in the individual, but also in the class; not only in this class, but also in the species. Hence *genuine* suicide is but a tacit indication of the inaptitude to live; it is a process of segregation, ridding us of the unfit.

This method of natural elimination acts in obedience to the law of heredity. Heredity is an all powerful factor in the establishment of a soil, favorable to the growth of many a morbidity. This soil has been considered by all pathologists as the abode of predisposition on the part of the individual. To speak with a contemporaneous writer on the subject, it is a soil prepared by ages, cultivated by generations, and susceptible to the reception of a germinative material, which soon develops in full bloom and blossom, bearing in its pods the seed of destruction and extermination.

The disposition to suicide has been derived from a long distant past; it has lived upon the very blood of our ancestors, has imbibed the very sap of our progenitors and has gained prominence as an infernal curse to civilization.

The vice of self-destruction is predominantly present in those unfortunates who are the recipients of various neuroses. Every physician can relate a story of a neurasthenic voluntarily terminating his life. Monographs on neuropathic diseases show that about twenty-five per cent of persons afflicted with nervous disorders will ultimately commit suicide. To the same category belong locomotor ataxia, general paresis of the insane, and a host of other minor nervous maladies. Records of asylums for the insane conclusively point to melancholia as a potent factor in the

history of modern self-destruction; not to speak of mania, circular insanity, epileptic insanity, and the insanities of puberty, pregnancy, and lactation.

The various intoxication neuroses, such as alcoholism, morphinism, and cocaineism, often tend to the rise of an impulsive suicidal mania. The withdrawal of the drug does not in any way abate the predisposing tendency, as Dr. Crothers of Hartford, has ably shown.

Acute idiopathic delirium, and that due to the divers febrile infections, exanthematous diseases, is often a cause of unconscious self-destruction.

Temporary overexertion, both physical and mental, wherein our vital mechanism has been thrown into a state of unbalance, has frequently caused persons to commit suicide.

Aside from the various exciting agencies which may cause suicide, the all-dominant factor, *predisposition*, must be regarded as the *true* source and the *prime* factor. This is easily explained by the fact that some form of psychic aberration is always to be found in the family make-up of those individuals.

So, too, most cases of suicide supervening upon social and business failures can be traced to a neurotic family history. In short, no exciting cause would be strong enough to induce suicide, unless there be a *hereditary predisposition* to the same.

In the early history of jurisprudence hardly any cognizance was taken of the question of suicide. The first nation to enact some laws with reference to suicide were the Romans. They chastised every person who attempted to commit this wrong, by confiscating his property. Shortly England and France followed with the same punishment. Later on other communities, too, commenced to give it some legal thought. The English common law regarded suicide a felony. Presently it is considered a crime, and the attempt to commit it a misdemeanor.

In the United States the subject is largely governed by statutes, most of them practically following the English law. Thus, the assistance rendered to a person in the com-

mission of suicide has been made a felony in Arkansas, Missouri, Massachusetts, New York, California, Oregon, Minnesota and other States. So, too, in the United States as in England an accessory before the fact is treated as principal. In *Reg. vs. Jessap* (10 Criminal Law Magazine, page 862) the court held that "if two persons agree that they will poison each other, each person is a principal and each is guilty." The same reasoning was applied in *Blackburn vs. State*, 23 Ohio St., 146, and in a number of recent New York cases.

The present tendency of the law on this subject is toward greater stringency. Many States, which till now have hardly given it any legal attention, are making rigid enactments. Inasmuch, however, as we have seen that most cases of suicide are due to some physical unsoundness, it is evident that what we most urgently need is not the addition of legal restrictions, but the improvement of our physical organism, for health is the key of human happiness.—*From the Medical Age.*

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EDITORIAL.

[All Unsigned Editorials are written by the Editor.]

THE PATRICK CASE MEDICO-LEGALLY CONSIDERED.—The Boston *Medical and Surgical Journal* concludes an editorial on the Patrick case from a medico-legal point of view, as follows:

"The only theory of the manner of the murder was one presented in the last of several confessions by Jones. In order to secure a verdict of guilty the jury was asked to believe the unsupported testimony of this discreditable and discredited witness, an assumed accomplice to the assumed conspiracy to murder, to the incredible story that he killed Rice by roughly and hastily giving him chloroform during sleep. Of the many attempts that have been made to chloroform a person while asleep the very great majority have failed, and the few that have succeeded have been in the most skillful hands and were conducted with

the greatest care and deliberation. It is certainly extraordinary that the defense, instead of wasting time and energy in combating evidence as to motive, did not seriously attempt to establish, by their own experts and by cross-examination of the experts for the prosecution, certain facts which belong to the common professional knowledge: (1) That chloroform administered in the manner and under the conditions testified to by Jones could not have killed Rice unless he was at the time practically insensible; (2) that chloroform vapor is very slightly irritating to the respiratory passages, and that chloroform never kills by irritation of the lungs; (3) that the pulmonary congestion and edema testified to by the physicians who made the autopsy was a sufficient cause, and a natural cause, of death. That Patrick desired and plotted the death of Rice may be true, but that Rice's taking off was accomplished in the manner alleged is entirely without adequate proof. Whether he is guilty or not, he is entitled, under the law, to his constitutional rights, and should have been convicted only in strict accordance with law and evidence."

No autopsy of the brain appears to have been made and no record of the state of Rice's arteries appears in the post-mortem record, yet Rice had been long in that period of life when men die of atheromatous arterial degeneration and its consequences. Chloroform if given in the manner testified to by Jones could not have killed Rice except as a possible auxiliary to his death.

CONSTIPATION AND CIVILIZATION.—Sir Robert Sawyer has recently revived the old notion that civilization is a cause of constipation. Several years ago a St. Louis physician expressed the opinion that "constipation so common among civilized people and especially females is in some measure due to the restraint of clothing and modesty; if children and men and women were no more restrained by clothing and sense of what is decent and proper than the beasts of the field, constipation in the human family would be as rare, no matter what their ordinary diet is, as it is among the beasts of the field." The Indian, Dr. A. B.

Holder of Memphis remarks, (*Medical Record*, July 10, 1892) will leave the tepee just as the dog will go out of the house or kennel, but he (or she) will stop within ten feet thereof and in sight of the entire village, when and where the inclination overtakes him, will spread the all-useful blanket above his head and obey with commendable promptness the calls of nature, still he is constipated.—K.

THE MIRTH MIND TONIC.—November *Success* gives some precepts and a mind and body tonic in the following under the caption, “Increase Your Capacity to Enjoy Life”:

Nothing contributes more to the highest success than the formation of a habit of enjoying things. Whatever your calling in life may be, whatever misfortunes or hardships may come to you, make up your mind resolutely that come what may, you will get the most possible real enjoyment out of every day; that you will increase your capacity for enjoying life by trying to find the sunny side of every experience of the day. Resolutely determine that you will see the humorous side of things. No matter how hard or unyielding your environment may seem to be, there is a sunny side if you can only see it. The mirth-provoking faculty, even under trying circumstances, is worth more to a young man or woman starting out in life than a fortune without it. Make up your mind that you will be an optimist, that there shall be nothing of the pessimist about you, that you will carry your own sunshine wherever you go. There is longevity in the sunny soul that eases our jolts and makes our sides shake with laughter. There is a wonderful medicinal effect in good cheer. Good news and glad tidings have a magic effect even upon invalids.

MENTAL TRAINING OF THE CHILD AFTER BIRTH.—With the period between birth and the age of two begins the education of the child as to its relations to its surroundings. This education may possibly have begun before birth, but it is perfected after birth. This period is rarely marked by evidences of mental stress to the ordinary observer. There is no doubt, however, that the complete

unity of the mind constituted by balance is often either made or marred so far as its foundation is concerned during this period. Humoring of the child during this time frequently results in an undue development of its egotism which requires careful training during the subsequent period if it is to be checked at all. It comes natural to every woman (*Doctor's Magazine*, September, 1901) to pity a child when it hurts itself. Be the misadventure big or little, the mother immediately takes the little one in her arms and in her most sympathetic pitying tones tries to solace it. And of course the child concludes something horrible has happened to it and cries vigorously. A little baby if pitied can soon be brought to a weeping state when nothing whatever is the matter with it. Just call up your most tender sympathetic tone, ask him that time honored question. "Did they boose the baby?" and the lips will begin to quiver, the mouth to drop and soon a wail breaks forth that is meant to indicate that "they did." Of course children will cry sometimes. Crying is an institution that cannot be done away with. Crying more or less is expected with the advent of the little stranger, but the more or less depends largely on the parents. A child can be laughed into a good humor. Instead of pitying him at the numerous little hurts he gets, treat those that are of no consequence as a good joke. Laugh at them and the baby will quickly laugh with you. It does n't take long to chase the tears away. Besides doing away with a lot of unnecessary crying it teaches him not to mind little hurts and develops a brave little fellow. This does not apply to serious mishaps, but to those numerous little bumps which youngsters are continually getting and which a little pity quickly magnifies into something of importance in childish eyes. Never giving a child anything he cries for is another excellent way to nip in the bud the crying habit. If it is proper for him to have it, promise it to him when he stops crying. Reward his good behaviour, not his bad. Of course, if bad habits in this direction be formed it is hard to correct them. But such discipline observed from the beginning will make crying an infrequence in the home where the

youthful monarch reigns. Anger is very early shown in children. During the first two months even the child evinces by movement of its eyelids and hands intense anger when the attempt is made to bathe it or take something from it. During this period therefore the child can be taught to develop powers of self-control and recognition of the rights of others, which will undoubtedly serve for the basis for future training in both ethics and general education. At a later period (between two and six) the child's lack of control is shown in its inability to distinguish ideas of contradictory character suggested by the same association or between the desirable and the fact. For this reason more than one author has expressed the opinion that all children are liars. They however, ignore the fact that truth and falsehood are not instinctive but result from checks acquired by the accumulation of facts. Indeed, in many grown persons the power of distinguishing between wishes and facts is not very clearly developed. The general recognition of this mental state has led to the enunciation of the truth of the French epigram that every truth is overshadowed by a Sophism more like the truth than the truth itself, or as it is more tersely put in the original "*c'est vrai mais ce n'est pas vraisemblé.*" At this period good training must therefore result in the accumulation of facts which will instruct the child to distinguish between its own wishes and outside facts as the earlier training of the first period taught it to distinguish between the different parts of its body and the outside world. In short, the training of this period must be based essentially on the principle that there is a secondary "*ego*" as well as a primary one constituting the basis of selfishness. The great aim of education at this time is the creation of checks on explosive propensities whether of the higher nervous centers as shown in the explosions of anger or unconscious mendacity. In this education the forebrain requires special attention since it is a checking apparatus against lower and more instinctive natural impulses. The higher its development the greater the tendency to subordinate the particular to the general. Even in the lower animals a high state of

social growth occurs as in the communities of bees and ants. The same is the case in the development of the infant, who as Harriet Alexander has shown (*ALIENIST AND NEUROLOGIST*, 1894) is a being wrapped in its instincts of self-preservation, the primary *ego* is predominant and the child is an egotistic parasite. As development goes on this standpoint is passed, the secondary *ego* constituting consciousness assumes its priority and the fore-brain acts as a check on the purely vegetative functions.

CZOLGOSZ AGAIN.—Since the two days' trial and conviction of Czolgosz, letters from eminent psychological experts and able lawyers here come to us in approval of our article on the subject. The attorneys all agree that practically this assassin had but a *pro forma* legal defense, his attorneys even apologizing for that. In all our letters there was a general concurrence in the statements of one of the most eminent of medical experts summoned in the case, writing before the prisoner's execution said, "there was really much of interest in the case and regarding it as a matter of regret that some of the advanced men of the country could not have examined him and that such undue haste was displayed in disposing of a case that possessed features of scientific as well as judicial interest." One able alienist remarking on the prisoner's singular reticence that "his silence was accompanied by a reactionary dullness and apathy after the early excitement," pointing to a possibility of epileptical complication. The same writer concluding that "evidently the assassin met the requirements of the law regarding responsibility." But while this is the fact and while no mentally well-organized patriotic citizen complains of the assassin's execution as a matter of sound public policy, the fact still exists that the legal inquiry did not go far enough in the direction of clearing up the puzzle of how a crime of such a character could be committed by a well-balanced person reared from childhood to manhood by the educational institutions and influence of this free fair country to all people and against such a benignant and fair-minded executive.

American presidents may be slain by legally sane assassins, but without motive of money gain or vengeance (personal or political), would any well-balanced person kill or try to kill an American president. Such anomalous conduct would excite sufficient suspicion of unsoundness to justify a completer inquiry into possible aberrant features that was given to this recent *cas celebre* in American jurisprudence in which the medical aspects were passed on too lightly. Nor did the country learn what it might about possible conspiracies of communism, nihilism, etc., by this briefly conducted and hastily concluded trial. Passion is quiescent, vengeance is appeased and we may now see that the public interests may possibly have lost something that might be of service in the future by the needless haste of the Czolgosz trial. Should another such crime occur which Heaven forbid, it is to be hoped the administration of the law will permit us to learn more than the country learned in the Czolgosz trial of the mental mystery in the make-up of the man who could so cruelly and unprovokingly murder an American president.

THE MEDICAL PRESS owes it to the safety of the world to save it from the beauty doctor's beauty marks of bichloride of mercury and other poisonous potions and masks that prove death masks, the venders of cocaine and strychnine pick-me-ups, vicious developers of body form, change of life arresters and manhood savers which are youth and virtue destroyers. It should step forward and stamp out these public press fostered vipers of female purity and fireside virtue.

DEMONOLOGY OR EPILEPSY.—Trephining in the stone age was done according to Dr. Monroe (Doctor's Magazine, Jan. 1902) as a rule by scraping the skull with a sharp flint, though there was occasional use of a sawing manner, such as obtained when the ruder implement was superseded by one of metal. The process was almost exclusively practiced upon children, probably on account of the facility with which it could then be accomplished and

probably also as an early precaution against those evils for which it was esteemed a prophylactic. Dr. Broca shows that while the operation was primarily conducted for therapeutic purposes, behind these lay apprehension of a demoniac influence. Lenormant, ("Chaldean Magic") describes "the wicked demon which seizes the body and which disturbs the body. The disease of the forehead proceeds from the infernal regions, from the dwelling of the lord of the abyss." Convulsions of children which often disappear in adult life were then regarded as the result of demoniac possessions. The escape of the demon was assisted by boring a hole in the skull that formed his prison. A patient who survived the operation became a living witness to the conquest of the fiend. A fragment of his skull taken after death from the aperture that has furnished the exit constituted a powerful talisman. Chaldean demons often fled from representatives of their own hideous forms and being so sensitive on the score of personal appearance dreaded with equal keenness the tangible record of a previous defeat. To cranial bones medicinal properties were ascribed, belief in the efficacy of which persisted to the dawn of the eighteenth century. Such osseous relics are still worn by aged Italians as charms against epilepsy and other neuroses. When once the dogma was promulgated that sanctity and a perforated skull were correlated, fond relatives would naturally bore the heads of the departed to facilitate the exodus of any malignant influence still lingering within and to insure them by the venerated aperture a satisfactory position in their new existence. For similar reasons the bone amulet was buried with the deceased and sometimes placed within the skull. The Peruvian Surgeon-General Dr. Manuel Antonio Munoz presented to the Smithsonian Institution nineteen crania giving evidences of prehistoric trephining for surgical purposes. In some instances the patient died under the knife. In one instance the patient survived the removal of the fragment four inches long and one-quarter inch wide. The resultant cavity was covered with silver. In another instance the patient survived two trephinings

but died after the third. The instruments used were of flint like those of the neolithic age (*Medical Standard* Vol. XIV p. 23). These skulls have a persistent frontal suture and hence are primitive types. Ammonia in nerve therapy developed from this cranial bone talisman as Dr. Harriet Alexander (International Folklore Society, Trans. 1901) has shown. The volatile salts from cranial bone were used in the eighteenth century by Charles II of England. Drug stores still have occasional calls for such salts.

IS THE LOUISIANA PURCHASE EXPOSITION TO BE ONLY A COMMERCIAL EXHIBITION?—Glancing over the recommended list of ninety Directors one sees only business men, with one or two lawyers thrown in. Is not this pretty narrow? Even the business representation is not diversified sufficient to include a good half of the interests that should have representation. Where are the scientists, the clergy, the educators, the medical men, etc., the representatives of art, mines, metallurgy, etc., the horticulturists, floriculturists, stock men, machinery manufacturers, mining, military, grazing, forestry, land and water? Banks, newspapers, railroads, wholesale houses, trust companies and brokers mostly make the list. If the coming exposition is to be only a business fair why not advertise it as such. If it is not why not get the men into its management who will represent the varied interests that legitimately enter into the make-up of a world's universal exposition. The committee of two hundred was apparently an exclusively down-town selection, a merchants' exchange and noonday club affair.

IMPORTING DISEASE.—The *Memphis Medical Monthly* discussing the action of the Treasury Department in refusing admission to consumptive immigrants, tuberculosis being classed by the Department under the head of communicable diseases, and the recently adopted resolutions of the New York Academy of Medicine denouncing this ruling of the Treasury Department, remarks that from a sentimental standpoint it does look a little hard that the father or

mother or sister or brother should be refused permission to join their relatives in this country, * * * but while this may concern a limited circle, the old law of the greatest good to the greatest number recurs here as in similar conditions, and it certainly seems unfair that this country, which already carries a heavy burden of parasites * * from other lands should be forced to assume other charges, who, while they may be objects of pity, can be of no value to the community, but must always remain a source of menace. The same reasoning should apply to neurotic and psychic degenerates. America has already been too long the asylum and hospital for the world's defective degenerates, moral, physical, mental and political. This evil has already slain one of our Presidents and is corrupting our political and social life. The springs of psychic life are tainted and the fountains of our neurotic being are poisoned by the microbes and bacilli of European decay. The restless roving apostles of discontent and neuropathic psychopathic unstable decadents distort our constitutional license into liberty, imagining this land of freedom to be a great lunatic colony for the exploiting of bizarre ideas, the propagation of morbid emotions and the airing of psychic instability and the evolution of the spasmotic neuroses. The asylum business for foreign mental strabismic and bearers of the neuroses spasmodica is nearing its end in Free America. If this is to be maintained as the land of the free and the home of the brave, the threatening neurotic and microbial pestilences must be stayed at our borders. We have about all of this sort of instability our political and social fabric can endure and live.

WAS IT MORBID AUTOMATISM, DELUSIONAL INSANITY OR A SCHEME?—Dr. W. H. Bates, a New York physician, who disappeared on Aug. 30 last, leaving no trace, has been found in London. His wife, who had instituted a world-wide search, met the doctor as he emerged from Charing Cross hospital. In explanation of his disappearance, Dr. Bates, who had been engaged in

a tennis tournament at Newport, and had returned to his office here to attend to some matters, told his wife that he had been called to perform two operations and left his office carrying his instruments. He went to a ship anchored in the East River, where he performed an operation on a man suffering from abscess of the brain. No nurse could be obtained, and he remained with the patient all night. From that time, he says, his mind has been practically a blank. When found in London he had registered at the Charing Cross hospital for the purpose of taking a post-graduate course.

THE BOSTON CITY HOSPITAL has been the recent recipient of a benefaction of one hundred and sixty thousand dollars bequeathed by a Mr. Burnham for a ward to bear his name. Why do not some of our wealthy men of St. Louis make a similar bequest for our St. Louis City Hospital?

There is room on the grounds of the new Hospital for many wards more than the city is now able to build and the wealthy men are in this city and some of them will soon die and need a monument. And by the way when will the Barnes' Hospital bequeath made by Mr. Barnes several years ago of nearly a million dollars materialize into the intended hospital?

The wealthy men of St. Louis flourish and die and leave no mark behind them—none save Mullanphy and Barnes. Barnes left the money but the mark has not yet been made. Many years have passed since the latter died and not even a dispensary for outdoor sick poor has been reared to his memory. The trustees of the fund are holding it that it may accumulate to a self-supporting sum sufficient to maintain a hospital equal to the grandest hospital of any American city, but it might be wise to make a beginning now; build a wing of the institution and not let the people forget the greatest philanthropist of St. Louis.

JANE TOPPAN, the Taunton Asylum and the *Boston Record*.—The *Boston Evening Record* criticizes the man-

agement of the Taunton Hospital for allowing this multipoison maniac to mingle with the other patients of the asylum. It says:

"What a comment it is on the way we manage insane hospitals when Jane Toppan, that most vicious, remarkable among criminal insane of the state, mixes freely in her ward with other women who have never even been suspected of anything more than monomania. The harmless lunatics with whom she has been placed were not all so thoroughly out of their heads that some of them were not much exercised over her advent there. The one hopeful thing in taking care of her is that she is not allowed to go into the kitchen of the Taunton asylum."

Of course not! nor can she get any poisons or people to poison.

Toppan's mania was for poisoning those whom she nursed by mixing poisons with their diet. As she has access to neither medicines nor food except her own and is herself under the care and surveillance of a nurse and is not entrusted with any nurse function, she can neither do harm, nor will she likely incline to harm in her new relations. At least the medical superintendent, and other officers of the Taunton Asylum are expert enough as psychiatrists to take proper precautions for the care of the Toppan woman.

A DAY WITH DOCTOR MARCY.—While in Boston in October the editor spent a pleasant and profitable day with the Nestor of New England Abdominal Surgery, Doctor Henry O. Marcy, and saw him perform in his usual dexterous manner another one of his many skillful operations removing ovaries and appendix for real organic disease, a procedure always which neurology cordially approves as it does of every other surgical remedy for otherwise irremediable structural change, but not for the cure of functional neuroses.

Normal ovariectomy is abnormal surgery.

Dr. Marcy in his hospital and with the welfare of a patient awaiting the operative or non-interference fiat, is "a grave, modest, just and cheerful man, of simple habits,

clear intelligence, high principles and gentle judgments." It was said of another great man of the old Bay state commonwealth, Charles Bulfinch, who as the tablet in the state house to his memory records, was the first New England architect, architect of the old Massachusetts state house, Massachusetts General Hospital, McLean Asylum, Faneuil Hall, a Harvard architect and a Government architect on the national American Capitol.

Dr. Marcy enlightened us much concerning the Park system present and projected for Boston, a system which when completed will make a more artistic, beautiful and sanitary system than that of Paris.

The water supply system is also a beautiful nature-adorned, as well as healthful one, the water coming from artificial spring-fed lakes, with verdant tree-fringed environment.

WATER FOR ST. LOUIS.—St. Louis should have a similar water supply system. The water could be obtained by means of artesian wells sunk near the Missouri or Meramec river far enough above the city to be conducted into the city by natural gravitation. St. Louis has outgrown its present settling method and water taken directly from any river is an unjustifiable mistake if not a crime in this advanced age of sanitary water needs and knowledge.

DR. LORENZ CURES EIGHT FOR CHARITY.—Demonstrates to College of Surgeons and Physicians that His Operations are a Success.—Baffled by Severe Case.—Dr. Adolph Lorenz, the famous Vienna specialist, who was engaged at a record fee to perform an operation for congenital hip dislocation upon the five-year-old daughter of Mr. and Mrs. J. Ogden Armour, held a public clinic in the amphitheatre of the College of Physicians and Surgeons at Chicago. He accomplished the remarkable feat of performing eight entirely successful operations similar to that on Lolita Armour.

With one exception, the patients were girls, and all under twelve years old. As a consequence of these opera-

tions there are sixteen parents tonight asking heaven's blessing on Mr. Armour for bringing the specialist to this country. No charge was made for the operations.

One case baffled the efforts of the physician. After working over a girl patient almost an hour he pronounced it impossible to force the head of the femur into the socket, the opening not being large enough to admit it. He succeeded, however, in bringing the bone from a posterior to an anterior position, so the pelvis will hereafter have a bony support. The power to walk with the help of a thick soled shoe will therefore be made possible.

Professor Lorenz was elated today at the prospect of the complete recovery of Lolita Armour. He said:—"It is my intention to see the little patient several times before departing for California two weeks hence. Although she has always been a delicate child, Lolita stood the operation well.

"By my system of manipulation the pain is reduced to a minimum. I think that about eighty per cent of patients five years of age and under are entirely curable. The bones are more susceptible of surgical treatment.

"Lolita is five years old and somewhat small for her age. I believe that when she gains the use of the leg that is now in a plaster of paris cast, and is able to run about and play like other children, which will be in about six months, she will grow faster. Thus she will become a perfect woman, whereas, through nature's dereliction and without the aid of science, she would have been a cripple and undersized.

"There is a fairly well developed socket in her case, and the problem is to make the femur, or thigh bone, stay in it. Even in cases where there is very little socket one can be dug out and formed by skillful work.

"There is no pain to speak of in store for the little girl during the time the cast will be in its place. The plaster cast will remain in its position six months, but it is so adjusted that the flesh is not unduly pressed. There are appliances by means of which the skin underneath this cast will be kept in the same condition as that on the rest

of the body, and at the end of the six months, when the cast is removed, the flesh and the cuticle covering it will be found healthy.

"Tomorrow I shall allow Lolita to sit up. In two days I shall require her to take exercise, and that exercise, assisted by nature, will bring about changes in the joint so when the cast is removed the hip will be found to perform its functions in a perfect manner. The leg operated upon will be exactly the same length as the other, and that hip will then be as perfect as the other, or as that of any normal body."

THE STORY OF LORENZ AND LOLITA.—In this land of Anthropædics, anæsthetic surgical ingenuity and ingenious mechanical resource and great surgeons and of millionaires made through superior inventions and resourcefulness in the protection of home products and home industries, it seems strange that Mr. Armour could find no surgeon in all this great land to correct his little Lolita's congenital hip joint deformity.

Mr. Armour's pork was raised in America, and all the ingenious devices by which American Labor was discounted and his money coined are products of an American brain. There are likewise surgeons in America skillful enough to have secured as successful a result as can possibly follow the Lorenz procedure, in every large city of this country. Several might be named in Chicago alone. It might be possible to find a surgeon in America who might succeed in making a socket and in adjusting the limb in the clinic case on which Prof. Lorenz has acknowledged failure. The surgeons of America are fertile in expedients and quite as equal in skill as those of Austria. But the story of Lorenz and Lolita has been before repeated in America by imported American citizens with inborn Austrian predilections, and by native born Americans who dream that things are best the furthest they are brought from home. Lorenz is a good surgeon, good enough to counsel with but not to supersede America, the land of anæsthesia's discovery, which made the Lorenz procedure a possibility in surgery; the land of

McDowell and Sims and Sayre and Senn and Murphy and their able followers has given lessons of skill and safe procedure to the world. There are no surgeons in Vienna now superior in skill or technique to our own.

DELAYED MANHOOD AND FEMALE IMPERSONATION BY MALES.—There has recently been reported a case in which a male dressed in female clothes for twenty-one years then falling in love with a fellow servant, abandoned the attire to marry her. The man was feminine in type and had worked for years at female occupations. In two other instances female attire was assumed for purposes of robbery. It will be remembered that, as Dumas describes in *Monte Christo*, the Italian brigands use boys dressed in female attire to allure travelers to secluded places for purpose of capture. Discussing female ambassadors a European correspondent of the *Chicago Tribune* remarks that the only one of these in a continental European court was the Chevalier d'Eon who although dressing alternately as man and woman was well known to be a female. In this the correspondent is in error. The celebrated Chevalier d'Eon long believed to be a female was (*Tidy Legal Medicine Vol. I, 306*) compelled to wear feminine apparel for many years by order of Louis XV of France. The plaintiff in *Da Costa vs. Johnes* claimed \$1500 as money owing as a bet provided the Chevalier proved to be a female, the plaintiff having already paid \$375 to the defendant on this understanding. The verdict was given for the plaintiff thus deciding that the chevalier was a female. This was set aside by the higher court on the ground that the law did not allow wagers on subjects leading to the introduction of obscene evidence nor upon such subjects as were calculated to have an injurious effect upon the character and interest of a third person. Sir Anthony Carlisle afterward examined the chevalier and found perfect testicles satisfying himself and all others that the chevalier was of the male sex. Public opinion is rather tolerant of the assumption of female attire by males provided the sex be known. Thus in one of the Eastern states a physician

practiced for several years in female attire without creating scandal, or special comment. (*Journal of Nervous and Mental Disease* 1882). In Chicago a brewer has worn female attire for years without creating any special scandal and but one instance of newspaper notoriety which did not succeed in its object of rousing public indignation. To a certain extent this indifference arises from the fact that there is much less of voluptuous suggestion in female attire on a male than in male attire on a female. In the case first described the desire to abandon female attire worn for so many years was brought about in part by the sudden descent of the testicles. There is, as Tidy remarks, a class of cases of delayed manhood where the disposition of parts proves beyond doubt the male sex while there is nothing anatomic to indicate a mixture of the sexes. Nevertheless the genital organs may remain of small size, the boyish voice continuing and neither face nor genitals exhibiting any appearance of hair growth with advancing age. A smooth plumpness and softness of skin and muscular development, a womanly nervousness and the absence of sexual instincts or desires may raise doubt more especially if whether the individual be normal. This condition may result from a non-descent of the testes or even of a testis. The state may last through life while in other cases a sudden manly development takes place. While sex differentiation so far as special sex organs are concerned may not be arrested at the indifferent sex period of intra-uterine life still as Kiernan has pointed out (Medicine 1901) the sexopsychic side often remains entirely dormant until adolescence. This adolescence may be delayed until late because of non-descent of the testes. This descent may be hastened by an attraction for another person the sexual factor of which is at first sub-conscious. This was in all probability the condition of things in the case first cited. There is one social danger in connection with the assumption of female attire by males. A woman might unwittingly occupy the same couch with one of these female impersonators. Thus in a recent divorce case a female impersonator was corespondent. The defendant ad-

mits that she occupied for a time the room of this impersonator whose real sex was unknown to her but claims that she left it on ascertaining the real sex. It would seem therefore but just that the ordinary statutes anent attire should be relieved of their sumptuary nature and at the same time be so adjusted as to protect innocence.

SOMNOLENTIA, SOMNAMBULISM AND CRIME—The recent alleged homicide during sleep by an Ohio man who subsequently manifested a confused, agitated, depressed state, is in all probability epilepsy of the nocturnal type rather than somnolentia or somnambulism. The history at first suggests somnolentia. The man was awakened by a fierce animal who attempted to injure him and his mother. He defended himself and his mother but on perfectly awaking found that he had killed her. From this state he passed into the condition already described. As Wharton and Stille have shown (*Medical Jurisprudence* Vol. 1) somnolentia (sleep drunkenness) and somnambulism may be the source of crime. Among other cases cited is that of a day laborer who killed his wife with a wagon tire; the blow being struck immediately upon his starting up from a deep sleep from which he was forcibly awakened. There was evidence that the accused on waking had the delusion that a "woman in white" had snatched his wife from his side and was carrying her away, and that his mental agony was so great that his whole body was wet with perspiration. There was no doubt of the defendant's irresponsibility. In the United States the case properly would fall under the head of excusable homicide by misadventure. These cases vary little from an early English case in which there was legally demonstrated the same delusion as to danger heightened by disturbances of mind such as are produced by a sudden waking from a deep sleep. The accused was in bed and asleep in his house. His maid servant (who had hired the deceased as help) when going to let her assistant out about midnight, thought she heard thieves breaking open the door whereupon she ran upstairs

to call her master. Suddenly aroused he ran downstairs with his sword drawn. The deceased hid herself in the buttery least she be discovered. The wife of the accused observing some person unknown to her there, thinking it was a thief cried out, "Here are they who would undo us!" The defendant in the paroxysm of the moment, dashing into the buttery thrust his sword at the deceased and killed her. He was acquitted under instruction of the court. The case has stood the test of the common law courts for over two centuries without being questioned. These were cases of somnolentia and not properly speaking somnambulism. This last involves continuousness and not merely a temporary transition state between sleeping and waking. There are many states moreover which are simply the result of consciousness whose memory is afterwards lost that are placed under somnambulism. Over-tired people when awakened not rarely perform logical actions in response to outside influences and return to sleep; the memory of the whole transaction being obliterated. These phases of consciousness however never involve crime nor the self-defense which is such a prominent part of somnolentia and somnambulistic states. The question as to the existence of these states in a particular case must be determined by evidence and not by any *a priori* consideration.

HYPOTONE is a palatable and potent stomachic and tonic combination of iron, quinia, nux vomica and coca in pure California sherry, put on the market by the Charles Roome Parme Company, which will save the physician some labor and time in prescription writing, as he often needs just such a combination in practice.

A FACETIOUS NEWSPAPER NEUROLOGIST.—A funny newspaper reporter, Ripley Tipton, by name, thus facetiously discusses an alienist and neurologist, not of our noble guild, but one whom Lipton guilds, in phrase neurologic, with nobility and glory, concluding with a sly dig at

practitioners of neuriatry. His facile familiarity with forms of nerve healing procedure in certain cases, is suggestive of his having been himself an intractable neurological subject who probably slept too little and ate or drank too much. At all events Tipton thus discourses:

"An alienist and neurologist, as generally understood, is a learned medical gentleman who listens sympathetically and respectfully to those who go to him with stories of their sufferings from overwork. He asks a few questions, writes a prescription for a *nux vomica* tonic, and keeps strictly to himself his own opinion of overwork as the usual cause of nervous disorder. The man on the ladder is an alienist and neurologist of another kind. It is his business to keep in order the nerves of the world, represented by the electric wires over his head. A very slight disorder of the system at any given point might cut that point off from the rest of the world's nervous system, but as long as he and the others of his profession are constantly on the alert, we and the rest of the world keep moving together. He is working on the trolley wire at present, but the nervous system of which St. Louis is a ganglion, covers civilization, and on the poles not far away are marks left by the "climbers" of the neurologist who last ascended to see where the trouble was which threatened to cut us off from Seattle, San Francisco, London or Calcutta. All this is a part of everyday life so common that we take it as a matter of course, though it is really a greater miracle than any in which the late Col. Ingersoll declined to believe. We also take it as a matter of course when we see a line in the papers from the coroner's office, telling the verdict in cases where such neurologists as the one on the ladder make mistakes in their treatment of the nerves they are setting right. Under their professional brethren who prescribe tonics of *nux vomica* and *phosphorus*, it is their own funeral which follows any capital blunder in the treatment of the disorder they are called on to repair."

LAUGHING EPIDEMICS.—In a town in Southern Illinois, epidemic hysteria in the form of exhausting laughter

had made its appearance. This was one of the many types of mental epidemic which have been described by Hecker in his "Epidemics of the Middle Ages". In some instances these epidemics have supervened as Dr. F. W. Rilly has pointed out, on a prolonged epidemic of influenza. They were likewise part of the nervous phenomena of revivals in the last decades of the eighteenth and first years of the nineteenth century. The "holy laugh" was a very frequent sign of conversion, often sweeping in paroxysms through the immense multitude present at the revival. Men, women and children were affected. Kipling makes a characteristic use of laughter epidemics in his "In the Matter of a Private". "One of the quaintest spectacles of human frailty is", he remarks, "an outbreak of hysterics in a girl's school. It starts without warning generally on a hot afternoon among the elder pupils. A girl giggles till the giggle gets beyond control. Then she throws up her head and cries *honk, honk, honk* like a goose and tears mix with laughter. If the mistress be wise she will say something severe at this point to check matters. If she be tender hearted and send for a drink of water the chances are largely in favor of another girl laughing at the afflicted one and herself collapsing. Thus the trouble spreads and may end in half of what answers to the lower sixth grade rocking and whooping together. Given a week of warm weather, two stately promenades per diem, a heavy mutton and rice meal in the middle of the day, a certain amount of nagging from the teachers and a few other things, some really amazing effects can be secured. Now the Mother Superior of a convent and the Colonel of a British infantry regiment would be justly shocked at any comparison between their respective charges. But it is a fact that under certain circumstances Tommy Atkins in bulk can be worked up into ditthering rippling hysteria. He does not weep but shows his trouble unmistakably. What is true of soldiers is true of mobs. The more frequent the occurrence of the co-existence of a psychic depression with an emotional excitement the more frequent the occurrence of mental epidemics. The crowd as Fournial

has remarked is a being which acts but does not reason. The other conditions besides the "holy laugh", which appear in connection with religiosity or with analogous mental states are, "temperance" epidemics, Dowieism, Eddyism, etc.

J.

THE NEW OFFICERS of the Oregon State Medical Society elected September 11th, 1902, are as follows:

President, Dr. Henry Waldo Coe, Portland; First Vice-President, Dr. F. W. VanDyke, Grant's Pass; Second Vice-President, Dr. J. A. Geisendorfer, The Dalles; Third Vice-President, Dr. J. P. Tamiesie, Hillsboro; Secretary, Dr. A. D. McKenzie, Portland; Treasurer, Dr. Mae Cardwell, Portland. Councilors: Dr. W. J. May, Baker City; Dr. J. Fulton, Astoria; Dr. Wm. Amos, Portland; Dr. G. F. Wilson, Portland; Dr. C. S. White, Gervais; Dr. S. T. Linklater, Hillsboro; Dr. W. T. Williamson, Salem; Dr. Wm. House, Pendleton; Dr. Ellis, Portland; Dr. R. C. Coffey, Portland.

DENOUNCERS OF MEDICAL FEES, TAKE NOTICE.—In 1837, the eminent Kentucky surgeon, Benjamin Winston Dudley, operated successfully but gratuitously on a poor boy for stone in the bladder.

This and the following circumstance were lately brought to light again by Dr. Osler and the *St. Louis Medical Review*. The lad was deeply impressed by the generosity of the great surgeon, and made a resolve that if ever he became rich the fee should be paid. About two years ago one of the heirs of Dr. Dudley had a letter from W. G. Saunders, of Iowa, stating that he was anxious to make arrangements to pay a long-standing indebtedness, and asked if a fee of \$500 would be suitable for the operation of lithotomy performed on him by Dr. Dudley in 1837. Last year the executors of Mr. Saunders wrote that in a codicil of his will directions were given to pay the fee with interest, and they had much pleasure in handing over the sum of \$2,390.

The average medical or surgical fee is seldom the real value of the service. The medical profession is one of the few callings among men where capacity to pay is con-

sidered. Only the rich and well-to-do ordinarily pay the doctor what he deserves and would charge all men, if all were equally well able to pay.

The world applauds the grocer, the butcher, the baker, the ice and coal man, if they give the poor their goods at half price. But the doctor gives all his service after furnishing medicine, appliances and other necessaries entirely free. He seldom charges the clergy, except for work he pays for himself, like haemic, urinary or bacteriological examination. The world takes these charities from the medical profession as a matter of course, sometimes without thanks, while it thanks the rich transportation corporation for a half rate for clergymen and the impecunious.

But when a doctor seeks to get from the exuberantly rich the real value of his services, even lawyers and their next of kin, the "road-agents" who forcefully ask you to hold up your hands while they rifle your pockets, hold up their startled hands in holy horror at the "rapacity of our craft."

The charity of the medical profession "suffereth long and is kind" while that of the other fellows "begins at home" and ends there, when doctors are in judgment before them.

FILIPINO MEDICAL FOLKLORE.—The article of Dr. P. F. Harvey on "Native Medical Practice in the Philippines," published in the New York Medical Journal (vol. lxxiv, pp. 203—212), contains some interesting items of folklore. Of the Moros the author observes: "Among the Moros generally there is no surgery, and absolutely no rational practice of medicine. The latter is simply a species of Shamanism, which is observed among most primitive races, by whom it is believed that spiritual or supernatural powers, both good and evil, occupying the earth and surrounding space, cause all things to happen. They are firm believers in incantations, charms and witchcraft. Their preventive medicine consists in wearing an amulet, which is purchased from a pandita or priest. The latter reads a

prayer from the Koran and writes it down upon paper, parchment, silver, copper or lead. This he wraps in many layers of paper, and finally sews into a muslin cover, colored with saffron, and made with long, tapering extremities, with a noose at one end. This is fastened about the waist or other part of the body by the owner, and, while so worn, is supposed to protect against sickness and evil. The panditas ask different prices for these charms, alleging that the higher priced ones are the most potent. The Moro name for this article is 'aguimat,' and it is known as the 'anting-anting' among the Filipinos, who also believe in its efficacy, but whose belief in the Christian religion causes them to reject the idea that there is any virtue in the Koran; so that among them a peculiar stone or pebble is used, one of peculiar shape, color or markings, which is likewise sewed into a piece of muslin long enough to be tied around the body and so worn as an amulet."—*Journal of American Folklore.*

HOW A ST. LOUIS DOCTOR CAUGHT ON IN NEW YORK.—In the August number of *The Louisville Monthly Journal of Medicine and Surgery*, Dr. Joseph M. Matthews, former president of the American Medical Association, and of half a dozen other large organizations, and president of the State Board of Health of Kentucky, in an editorial correspondence from New York City has the following:

"The moral of this is, doctor, take a rest, and don't take life too seriously. The latter part of the above sentence is a quotation from a remark so often made by the brilliant editor of the *Medical Mirror*, Dr. I. N. Love. By the way, that reminds me of his wonderful success in New York, of which I have had a personal demonstration in the last few days. One would think that perhaps the most difficult feat to accomplish would be for a doctor to immediately rush into business here among the 'wise men of the East.' But this Dr. Love has done. In common parlance, he has 'caught on,' and you cannot 'down him.' But this is not to be wondered at when we consider the extensive acquaintance he has with the medical profession through-

out the state. I am not overstating it in saying that he is the best-known man in the medical profession in America. As I watched him a few days ago dispatch business, I thought of what could be accomplished by some one of the large insurance companies, if they could secure his services as referee. A personal acquaintance with thousands of doctors, and a capacity for work scarcely equalled—think what he could do in this line.”

MEDICINE IN THE EAST.—“But I do not intend to allure doctors from their homes and cause a stampede to the East by reciting this good fortune of Dr. Love. Far from it, for my observation of things medical here has taught me that the average doctor has a ‘hard road to travel.’ But, outside of the ‘bread and butter’ question, this strenuous life led by the New York doctor is a killing one.”

MARRIAGES BETWEEN WOMEN.—Two recent cases of marriages between women have been disclosed by the death of the alleged “husband.” (“George” Greene, a well-known citizen of Ettrick, Va.,) who died at the age of 75. The wife called in assistance to prepare the body, when deceased was discovered to be a woman. “He” had been born in England, but came to the United States when a child. “He” early exhibited proclivities for male attire to which the family soon became accustomed. “He” worked for several years as a man and married (at the age of 40) a widow. The couple maintained their relationship without discovery until Greene’s death, at the age of 75. “William” C. Howard died in Canandaigua, New York, at the age of 50. The refusal of the “widow” and “children” to permit an undertaker to prepare the body for burial led to a coroner’s inquest, which disclosed the fact that “William” was a woman. “William” had early manifested male proclivities. “His” family had been unable to induce “him” to adopt female attire. When a girl on “his” father’s farm “he” donned male attire and took up masculine occupation, taking care of horses and cattle and doing chores. The family ceased to remonstrate with her, at

at length growing accustomed to her male attire and often joking about the attentions she paid her own sex. She escorted girls to parties and spent money on them freely. Finally she "married" a woman named Dwyer and later adopted two children. The couple took a farm near Canandaigua and settled down quietly. There was nothing especially feminine in either Greene or Howard; while Howard's ancestral family knew the real condition of things, they do not seem to have looked upon the relationship as at all abnormal. This would appear to indicate that the relatives of inverters have a certain tolerance for homosexuality. The influence of training at the indifferent periods in the development of homosexuality is suggested by the Howard case. The donning of male attire for convenient purposes may have stimulated a potential inversion previously latent.

In another case, that of Frank Lashaway, the dress tendencies were stimulated by the influence of his mother. He was a slender, sickly lad, fond of books and handy at house work. About the age of 18 his father died. His mother dreading the army draft conceived the idea of passing her slender effeminate boy off as a girl in a place where she was about to remove. She induced him through exciting his fears of the roughness of army life to don some of her clothing, which had been made over for him. For many years his sex was not suspected. While acting as a school teacher he met many young women and fell in love with one who confessed to him her love for a young farmer. He now considered the advisability of dropping female attire but meeting the bearded lady of a circus confessed to her his sex. She directed him to permit his beard to grow and keep his sex a secret, giving the address of a firm where he could secure a situation with a museum. About a year after he secured an engagement as "Madeline de Rux the bearded woman." During ten years he was a bearded woman. He then returned to his home where during a fatal illness the secret leaked out. He had become attached however to female attire and at his own request, was buried in it. At the time of his death his face was

not especially effeminate, even when the effect of the beard was allowed for. It seems probable that his mentality was rather that of a psychological hermaphrodite with homosexual tendencies from attire. Such a case is not unique. Dr. McBurney several years ago reported a case of pseudo-hermaphrodisim with imperforate penis whereby a plastic operation—the subject obtained the power to pass urine in an erect position. The sexual inclinations of this being varied with its dress—male attire inclined it to the female sex—female to the male. In dealing with the psychology of this influence of dress, the effect of the sexo-mental state known as fetishism must be taken into account. The potency of ordinary fetishism is generally recognized, but none the less demonstrable fetishism of the type just described, is ignored, in cases of seeming inversion, where but slight analysis is needed to demonstrate its presence.

K.

ONE CAUSE OF IT.—The *Mirror* of this city comments on the suggestive fact that while not a single passenger on British railways lost his life during the year 1901, one hundred and fifty-eight were killed on our railways. The *Mirror* quotes the *New York Evening Post* for previous statistics startlingly appalling, figuring out “the ghastly fact,” that during the three years ending June 19th, 1900, 21,847 people were killed on American railways.

When railroad magnates, managers and syndicates shall acquire more humane consideration for the brain limit possibilities of the overworked, human mental machines they engage to run with their engines and coaches, dispatch their trains and attend to the receiving and transmitting of messages and adopt the eight hour or less, for the strenuous and overstrained workers in their service, there will be fewer of those important brain failures and lapses of memory and brain energy, that lead to so many of the fatal mistakes and accidents, the daily press now so frequently records.

The machinery of the mind has limits in railway service which can not be inhumanely ignored in this exact-

ing brain strain service, without brain breaks, brain lapses and consequently grave property destruction and loss of life.

Railway employes should be considered, as well as the car wheels that are tested at every important stop and as well as the coaches and engines that are sent to the shop for repairs. Timely medical inspection and just physiological consideration of the brain capacity and brain rest needs of the men should economize millions for the railway corporations, though a little expensive in the beginning of the experiment. The machinery of the human mind is not built by nature on a perpetual motion basis.

HEALTH CENSUS.—Statistics just issued give Washington the highest death rate among the larger cities for 1901. Charleston, S. C., a death rate of 29.11 per 1,000; New Orleans next, 21.44; Washington, 21.14; Baltimore, 20.25; New York, 20; Boston, 19.70; San Francisco, 19.34; Cincinnati, 18.88; Philadelphia, 18.27; St. Louis, 17.67; Chicago, 13.88. Iowa, 9.2 per 1,000; Arizona, a rate of 3.3. Louisiana, 20.65. The healthiest town in the United States was Ellsworth, Wis., where, with a population of 1,500, there were only two deaths, one of those being from smallpox.

PRESIDENT ELIOT of Harvard protests against too little work for children in the Sunday schools and too much emotion in the churches (especially the Methodist.)

A sound psychology protests against the overwork of children and demands more play than work for them everywhere; in the schools, the mines, the shops and the household. Childhood is the normal play time of life, psychical as well as physical.

PRESIDENT ELIOT'S CHRISTIAN PSYCHOLOGY needs revision. The mind is moved by emotion as well as reason and the emotional Methodists, beginning with Wesley and Whitefield, have done much to move the world's intellect, as well as its emotions. In moral directions normal psychology embraces both the emotions and the intellect and all great

moral movements have ever had an effective emotional side to which Christianity is no exception.

Cold intellectual creatures, without the blended warmth of moral emotion and emotion stimulated intellect, do not make the most normal psychic Christian characters.

President Eliot appears himself to be an emotional kicker. The public school system, the Sunday school and Methodist church have each, in turn, excited his psychic neurones into neurotic protest. His nerves as a city paper observes, seem "set on a hair trigger." His critical "gun goes off half cocked."

THE OBSTETRICAL SOCIETY OF BOSTON.—A St. Louisan honored. Through the courtesy of Dr. Geo. J. Engleman, its distinguished president, the editor attended the October meeting of this distinguished society organized in 1861, Dr. Engleman, a native St. Louisan, but now of Boston, presiding.

The subject of hydatidiform moles and some unique cases of typhoid, the latter resembling septic infection in their febrile and neural phenomena, were well presented and ably discussed from the standpoint of clinical experience.

THE SUSPECTED BOSTON MURDERER of many women, Allen G. Mason, appears from the evidence thus far collected (the different implements of murder selected, all being such as each occasion chanced to put in the murderer's way and from the victims, all being women) to be a degenerate homicidal paranoiac, that is, if one man and that one the suspected man of wealth and exalted family position, by circumstances and normal environments removed beyond the usual incentive to such crimes, did all the murders attributed to him.

MUSOLINO VS. LOMBROSO.—Musolino, an Italian bandit, says *American Medicine*, who long defied the civil and military authorities, and by means of a criminal condition of society (there are annually about 4,000 homicides in Italy) became somewhat of a Robin Hood in the esteem of the people. When

finally captured and placed on trial, his defenders were greatly aided by pleas in his behalf, by the adherents of the Lombroso school, that the man was a "moral idiot," a "born criminal," "epileptoid," "tuberculotic imbecile," etc., and scarcely above the mental and moral condition of an "anthropoid ape." But this "science," or "psychiatry," was more than Musolino could endure even to save his life, and he "denied the allegation and defied the allegator" with successful indignation. He was accordingly condemned to penal servitude for life, much to the credit of society, and not less to that of law and psychiatry. And much to the credit of Musolino.

CHRISTIAN SCIENTISTS have put all doctors in a dilemma if only Christian Science be true, for Luke 10: 23 enjoins the physician to heal himself. Perhaps he meant, though he does not say it, the doctor should demonstrate on himself. The Christian Scientists have gone far ahead of the Apostles.

DR. SELDON H. TALCOTT.—In our August issue we referred to the recent death of Dr. Talcott as superintendent of the Middletown, Conn., Hospital for the Insane, whereas we should have said superintendent of the Middletown State Homeopathic Hospital for the Insane, Middletown, N. Y.

KING ALPHONSO OF SPAIN has shown his critics more sagacity than insanity in the selection of the wise Sagasta for his Prime Minister and in the proposed reconstruction of his ministerial cabinet.

DEATHS AND OBITUARIES.

Philo. O. Hooper, M. D., Jefferson Medical College, Philadelphia, 1856, vice-president of the American Medical Association, 1882, who, on account of the death of the President, Dr. Woodward, presided over the St. Paul meeting in 1880; trustee from 1882 to 1892; one of the founders, and for many years superintendent of the Arkansas State Insane Asylum, Little Rock; founder of the Medical Department of the Arkansas State University; first president of the Little Rock Medical Society; some-time president of the Arkansas Medical Society; a prominent physician and alienist of Little Rock, died on a train near Sayre, July 29, while on his way to California, from asthma, aged 68.

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

THE TREATMENT OF TABETIC ATAXIA by Means of Systematic Exercise. An Exposition of the Principles and Practice of Compensatory Movement Treatment, by Dr. H. S. Frendkel, Medical Superintendent of the Sanatorium "Freihof" in Heiden (Switzerland) Only Authorized English Edition, Translated and Edited by L. Freyberger, M. D., (Vienna) M. R. C. S. Eng. Hon. Physician to the St. Pancras and Northern Dispensary; Pathologist to the Great Northern Central Hospital; Late Clinical Assistant to the Hospital for Sick Children, Great Ormond Street; etc., etc. With illustrations. The price is \$3.00 net. The author attacks both the central and the sensory neurones of Ataxia, as follows, but we do not think he has succeeded in overthrowing the latter but rather in a great measure in confirming it. We quote: "Our arguments, so far, have shown that the "centre" theory of ataxia is absolutely untenable, and that those who pin their faith upon the "sensory" theory have had to leave a number of objections unanswered. Such objections were the disproportion between loss of sensation and loss of locomotion, the existence of loss of sensation without ataxia, and so on. In reality, the supporters of the theory asserting loss of sensation as the cause of the ataxia used only *one* clinical argument, namely, that loss of sensation was present in every case of ataxia. That this axiom did not meet with universal acceptance is largely due to the fact that the examinations of the patients had not been conducted with the necessary precision." "An analysis of the laws that govern the coordination of the movements showed that the continued and uninterrupted interventions of sensory impressions which come from objects around us, as well as

from moving parts of our body, take an indispensable part in the production of the coordination. These sensory impressions are not only necessary for the acquisition of new movements, but are absolutely necessary for the performance of movements that have already been acquired." "We have further seen that our relations to the external world are chiefly based on the sensibility of our skin, and those to the limbs of our body depend on the sensibility of joints and muscles. It follows, therefore, of necessity that impairment or loss of the sensibility of the skin, joints, and muscles causes motor disturbances." This book is a well illustrated, practical manual for the mechanical treatment of tabetic ataxia, especially adapted to institutions and sanitaria.

GENERAL PARESIS, Practical and Clinical, by Robert Howland Chase, A. M., M. D., physician-in-chief Friends' Asylum for the Insane, Philadelphia; late resident physician State Hospital, Norristown, Pennsylvania. 12 mo. 290 pages. Illustrated. Cloth, net, \$1.75. (Will be sent postpaid on receipt of price) P. Blakiston's Son & Co., Publishers, 1012 Walnut St., Philadelphia. Since the publication of Mickle's book, a work of very different character from the present, there has been no work issued upon the subject of General Paresis. Dr Chase's purpose has been to present for the use of general practitioners a brief, thorough guide to Symptomatology and Differential Diagnosis, with such instructions for treatment as have been found of value in his large experience. Paresis is considered in its origin and in each of its successive stages, each symptom being carefully described and the experience of alienists and writers of authority consulted to illustrate, especially from typical cases, the emphatic symptoms useful in diagnosis. While written from the author's own work, his book is of broader significance, because of his inclusion of many illustrated references from the similar work of others. The illustrations are reproductions of photographs from the records of the Pennsylvania State hospital for the Insane at Norristown; and in

each stage of Paresis are given four or more likenesses most typical of the exact conditions described. While there have been represented portraits of confirmed paretics, there has been no series hitherto published showing the earlier and more or less indistinct and vague symptoms of the disease. The illustrations in this respect reflect a most commendable feature in the character of the text, namely, the effort to give the greatest aid in differential diagnosis and in the recognition of incipient disease. Dr. Chase's work will prove most valuable, a companion to the other works on this subject in your library, especially in further elucidating the larger work of Julius Mickle. Chapter III, describing the mode of Prodromal stage, will prove especially interesting, as will likewise chapters VII and VIII, giving the varieties of General Paresis: Galloping. Circular, Melancholic and Spinal Forms; Simple Progressive Dementia, Juvenile Form, Paresis in Woman and Senile Form. The particular Symptomatology: Moral Perversion, Sexual Instinct Hallucinations described in chapter IX, are always of special value to the critical Neurologist. Something of interest will be found in fact in every chapter, beyond the ordinary. General Paresis in the negro, as illustrated in this book, is an especially novel feature.

THE FORCE OF MIND or the Mental Factor in Medicine, by Alfred T. Schofield, M. D., M. R. C. S., &c. (Hon. Physician to Friedenheim Hospital) author of "The Unconscious Mind," "The Springs of Character," Etc.

This book is an endeavour to supply the information asked of the author on April 17, 1897, by the *British Medical Journal* in editorial note on the author's address to the Victoria Institute on the "Scope of Mind." This book is written in the hope that those who are really anxious to study the relations of mind and body with regard to disease may get some assistance from the evidence the author has adduced on the subject. The author very clearly presents his case and the relation of the book to disease in the following quotation which you make from his preface, viz: In reading this book the sense of proportion is

necessarily lost between the relative importance of this 'mental factor' and all the other casual factors of disease. It is inevitably so in any book occupied exclusively with one side of a question; and it must not be supposed for a moment that (as explained in the text) one does not fully recognize that, after all, in many diseases the part played by the mind is *very small indeed*, either in cause or cure—though we believe that to some extent it is ever present. It may also be borne in mind that a thousand books exist on the physical factors in disease, whereas on the mental factor hardly a work can be found. And again, in defense of any zeal in pressing the subject that may appear to some readers excessive, he asks to be allowed to point out that he is only too conscious of standing in a very rapid scientific and material stream, whose current sets against the consideration of the subject here raised. Under the circumstances he thinks he cannot be blamed for not preserving the exact perpendicular of a neutral and colourless mind. This book will interest and profit physicians.

CLINICAL STUDIES, a quarterly journal of Clinical Medicine, by Byrom Bramwell, M. D., F. R. C. P. E., F. R. S. E., physician to the Edinburgh Royal Infirmary; lecturer on Clinical Medicine in the school of the Royal Colleges, Edinburgh, etc., etc.

Dr. Byrom Bramwell has resumed the publication of his instructive "Clinical Studies." They will be issued on the first day of October, January, April and July and comprise Clinical Lectures, reports of "Wednesday Cliniques," reports of Clinical Cases, articles and papers on Clinical Subjects. These Studies are by a Master Clinician and worthy the countenance and subscription of every physician.

THE AMERICAN NATURALIST announces with its thirty-sixth year a special offer of a free subscription to new subscribers for the year of 1903, for the remainder of the year 1902.

Since its foundation in 1867 by four of the pupils of Louis Agassiz, this periodical has been a representative

American magazine of natural science, and has played an important part in the advancement of science in this country. It has kept pace with the progress of the natural sciences in all parts of the world, presenting the leading facts and discoveries in the fields of Anthropology, General Biology, Zoology, Botany, Paleontology, Geology, Physical Geography, Mineralogy and Petrography, presenting each month leading original articles and discussions on new discoveries, reports of scientific expeditions, biographical notices of distinguished naturalists, and critical summaries of progress, freely illustrated.

THE PHYSICIAN'S VISITING LIST—(Lindsay & Blakiston's.)

With this edition The Physician's Visiting List enters upon the fifty-second successive year of its publication, a record which tells its own story.

In addition to the numerous other valuable features for which this little work is noted, we direct your attention to the pages on Incompatability, chemic, pharmaceutic and therapeutic, and the page on the Immediate Treatment of Poisoning, as new features. These additions enhance considerably the value of the Physician's Visiting list as a pocket record book and ever-handy reference guide for the medical practitioner.

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This is a compact time and labor-saving accountant's device for the busy doctor in his bookkeeping and fills the law in court.

MARIANI'S COCA LEAF is an occasional review for physicians advocating the rational uses of coca, containing besides many valuable medical excerpts.

NOTES OF ROMAN INSTITUTIONS for the feeble-minded,
by Dr. W. W. Ireland.

La Psychologie Criminelle, tome 1, par Prof. Paul Kovalevsky, M. D., Membre Honoraire de la Societe de Medecine Mentale de Niederlande, Corresponding Member of the New York Academy of Anthropologie. Membre de la Societe Medico-Psychologique de Londres, Membre de la Societa Freniatria Italiana, Membre Honoraire de L'American National Association for the study of Epilepsy and the care and treatment of Epileptics, Membre Honoraire de L'American Association for the care of Inebriates, Membre de la Societe Medico-Legale de New York, etc., Paris. Vigot Freres, Editeurs, 23 Place de L'Ecole de Medicine.

A Discussion of the Operative Treatment of Prostatic Hypertrophy; With the Presentation of Specimens and Models Bearing on the Subject. By Bransford Lewis, M. D., St. Louis. Professor of Genito-Urinary Surgery in Marion Sims-Beaumont College of Medicine; Consultant in Genito-Urinary Surgery to the City Hospital, Female Hospital, Rebekah Hospital, St. Mary's Infirmary, etc.

Some Aspects of American Medical Biography: By William Osler, M. D., Professor of Medicine, Johns Hopkins' University. Address at the meeting of the Association of Medical Librarians, Saratoga, June 10, 1902.

The Relation of Hydrothorax to Tuberculous Involvement of the Lungs and Pleura: By C. H. Powell, A. M., M. D., of St. Louis, Mo., Professor Physical Diagnosis and Clinical Medicine, Barnes Medical College.

The Michigan Medical Society; Its First Eighty-Three Years; Present Wants and Suggestions for Their Supply. President's Address at Port Huron, June 26th, 1902. By Leartus Connor, A. M., M. D., Detroit, Mich.

Chauvinism in Medicine. An Address Before the Canadian Medical Association, Montreal, September 17,

1902. By William Osler, M. D., F. R. S., Professor of Medicine, Johns Hopkins University.

Report of a Case of Anaesthesia of Retina (With Illustrations). By W. F. Southard, A. M., M. D., (Harv.) Professor of Ophthalmology, College of Physicians and Surgeons of San Francisco.

Psychopathological Researches. Studies in Mental Dissociation with Text Figures and ten Plates. Boris Sidis, M. A., Ph.D., Director of the Psychopathological Laboratory.

The Care and Custody of the Convict and Criminal Insane. By H. E. Allison, M. D., Medical Superintendent of the Matteawan State Hospital, Fishkill-on-Hudson, N. Y.

Treatment of Atony of the Stomach and Colon. By Fenton B. Turck, M. D., Professor of Gastro-Enterology in the Post-Graduate Medical School and Hospital, Chicago.

On the Quantitative Determination of Total Sulphates in Urine. By Otto Folin. [From the Chemical Laboratory of the McLean Hospital for the Insane, Waverly, Mass.]

Paramyoclonus Multiplex: Report of a New Case, With Further History of a Case Reported in 1896, Which Has Since Recovered. By F. W. Langdon, M. D.

The Immediate and Remote Causes of Death in Operations on the Stomach—Treatment Before, During and After Operation. By Fenton B. Turck, M. D., Chicago.

Some Practical Problems in Sociology Shown by a Study of the Southern Negro: By M. L. Perry, M. D., Pathologist to the State Sanitarium, Milledgeville, Ga.

Life and Work of the Late Professor Christian Fenger. Memorial Address Delivered to the Graduating Class of

Rush Medical College, April 4, 1902. N. Senn, M. D., Ph.D., LL. D., C. M., Professor of Surgery, Chicago.

On Phosphate Metabolism. By Otto Folin and Philip A. Shaffer. [From the Chemical Laboratory of the McLean Hospital for the Insane, Waverly, Mass.]

The Practice of Medicine as a Scientific Pursuit. By F. Park Lewis, M. D., Buffalo, N. Y., Member of the American Medical Association, etc.

Pennsylvania Hospital. Annual Report of the Department for the Insane, for the Year Ending April Twenty-fourth, Nineteen Hundred and Two.

The Effects of 190 F. Temperature on Man: The Cell Lesion: A Case. By S. Grover Burnett, A. M., M. D., Kansas City, Mo.

Kidney Disease in the Insane: A Study of Six Hundred Urinalyses and Seventy Autopsies. By M. L. Perry, M. D., Milledgeville.

Glimpses of the Practice of Medicine and Surgery in British and Spanish Honduras. N. Senn, M. D., Ph.D., LL.D., Chicago.

The Iron Controversy. By Harold Gregory Gould, A. M., M. D., Associate Editor of the *Regular Medical Visitor*.

A Case of Concussion of the Brain and Hystero-Epilepsy. By William B. Noyes, M. D., of New York.

A Study of the Pathological Substratum of Epilepsy: by S. Grover Burnett, A. M., M. D., Kansas City, Mo.

Symptomatology, Diagnosis and Differential Diagnosis of Neuritis. By Sydney Kuh, M. D., of Chicago,

III. Reprinted from *American Medicine*, Vol. III, No. 21, pages 865-868, May 24, 1902.

Medico-Legal Notes. By H. E. Allison, M. D. Matteawan State Hospital, Fishkill-on-Hudson, New York.

On Certain Studies With the Ergograph. By August Hoch, from the Laboratory of the McLean Hospital.

Fear as an Element of Nervous Diseases and its Treatment. John Punton, M. D., Kansas City, Mo.

Hereditary Cerebellar Ataxia, With Report of a Case. By Hugh T. Patrick, M. D., of Chicago.

The Narcotic Drug Habits and Their Treatment. By Geo. E. Pettey, M. D., Memphis, Tenn.

The Criminal Equivalent of Insanity. By Wm. B. Noyes, M. D., of New York.

Modern Medical and the Sanitary Era, 1900.

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IN THE SUPPLEMENT to the *Journal of Tuberculosis* the whole subject of Tuberculosis is covered by a series of articles written by Dr. Carl Von Ruck. For controlling the cough of Pleurisy, one of the complications of Phthisis. The doctor says: "Cough must be allayed by heroin, codeine or even morphine, the choice being in the order named, but only when required on account of severe pain. I have also employed papine, which has given me very satisfactory results and which possesses the very desirable advantage of not causing constipation."

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The Manager and Publisher of this Journal wishes to hereby extend thanks to the Atchison, Topeka and Santa Fe Railroad for the courtesies extended him and the Missouri Press Association at the recent meeting at Kansas City. The members were treated to an excursion to Denver, Colorado Springs, Garden of the Gods and a trip around the famous Georgetown loop. Every part of the trip was arranged for by the efficient and courteous representative of the above mentioned enterprising and progressive road. None of the party had to give a thought to anything, except to see that something did not happen that he or she



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missed. In fact so many attractions and diversions were offered in the limited time at our disposal that it was an impossibility to see all. The thanks of the whole party are due and I am sure are cheerfully and gratefully tendered the obliging and cheerful Mr. Savage of the Santa Fe, who accompanied the party, and exerted himself to the utmost in behalf of his guests' pleasure.

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of them are as stringent, others primarily stimulating but secondarily depressing—and so on through the entire category of remedies, objections more or less serious may be found. It is, therefore, a matter of great importance to employ a remedy which is not only free from deleterious by-and after effects, but which adapts itself to use as a routine remedy in the many and diverse conditions that call for tonic and reconstructive medication.

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it be a slight nervous headache or the most excruciating suffering from 'neuralgia, brings the height of pleasure to both patient and attendant. The ideal remedy must not only do its work, but it must also do it quickly. Touching this point is an article in the *Boston Medical and Surgical Reporter*, by Hugo Engel, A. M., M. D., the author says: "Antikamnia has become a favorite with many members of the profession. It is very reliable in all kinds of pain, and as quickly acting as a hypodermic injection of morphia. It is used only internally. To stop pain one five-grain tablet is administered at once; ten minutes later the same dose is repeated, and if necessary a third dose given ten minutes after the second. In 92% of all cases it immediately stops the pain." Farther on, Dr. Engel compares Antikamnia with the other coal tar derivitives. He says that while some of these are valuable remedies for the relief of pain, "not one of them is so certain in its effect in comparatively as small a dose and so prompt in giving relief as Antikamnia in every kind of pain." This uniformity in its action leads him to believe that Antikamnia possesses properties differing from the other coal-tar products, while it is certainly free from danger, if given in anything like reasonable quantities, which is not the case with other products from coal-tar. Five-Grain Antikamnia Tablets afford the most accurate and convenient form for administration.

MEMBRANOUS COMPLICATIONS. (Throat, Bronchii and Lungs.) Under the above heading we find the following by Walter M. Fleming, A. M., M. D., New York City, in the September number of *The Medical Era*: "With all the experience of more than a quarter of a century, in the treatment of winter-cough, and its complications of laryngeal, bronchial and pulmonary irritability, also dyspnœa, asthmatic spasms, and finally whooping cough—usually the most persistent and tenacious of all of these membranous maladies—I find no one remedy more strongly indicated, or which yields more prompt and satisfactory results than antikamnia and heroin tablets, composed of antikamnia 5 grains and heroin hydrochloride $\frac{1}{2}$ grain. The purpose of this combi-

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nation is manifest at once, for it provides primarily, a respiratory stimulant; secondly, a soothing sedative to the irritable mucous membrane and thirdly, an antipyretic and an analgesic. Result: A prompt and efficient expectorant, which at once relaxes the harsh and rasping cough, and releases the tenacious, sticky and gelatinous mucous, while its soothing influence is at once manifested, greatly to the comfort and contentment of the patient."

A MAGAZINE thirty years old. The Christmas (December) number of the *Delineator* is also the thirtieth anniversary number. To do justice to this number, which for beauty and utility touches the highest mark, it would be necessary to print the entire list of contents. It is sufficient to state that in it the best modern writers and artists are generously represented. The book contains over 230 pages, with 34 full page illustrations, of which 20 are in two or more color. The magnitude of this December number, for which 728 tons of paper and six tons of ink have been used, may be understood from the fact that 91 presses running 14 hours a day have been required to print it; the binding alone of the edition of 915,000 copies representing over 20,000,000 sections which had to be gathered individually by human hands.

INJUSTICE TO CONSUMPTIVES. For the United States to declare tuberculosis contagious and not admissible into this country is to stamp thousands of Americans with an unbearable stigma. To exaggerate the danger of the disease is to cause a worse disease—aptly styled phthisiophobia, separating a man from his wife, children from their parents, brother from sister, friend from friend. An instance of the same kind of misconception and undue zeal is seen in the recent action of the authorities of a country village not far from New York, which, because of its elevation and dry air, has become a favorite resort for persons afflicted with consumption. Fearing perhaps, not without reason, that this invasion of the town by consumptive patients would injure the reputation of the region as a summer resort, the

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authorities in question have gone to the extreme of forbidding any such persons to locate there for any purpose, or even to be received as guests in the homes of resident citizens. Of course such an invasion of private rights as this order involves could not be upheld in any court of law, but it serves to show to what unreasonable and absurd lengths some otherwise sensible persons are inclined to go in their treatment of this subject.—*Leslie's Weekly*.

PREPARED BY The Rio Chemical Co., of St. Louis, S. H. Kennedy's Extract of *Pinus Canadensis* is obtained from the hemlock spruce, an indigenous tree of considerable height, and having a coarse, heavy bark; the bark, moreover, is highly astringent, containing, as it does, both tannic and gallic acid, besides an oleo-rosin juice which is constantly oozing from it. To use an expression freely employed by those who have given *Pinus Canadensis* a trial, "it acts like a charm on mucous surfaces." It therefore possesses properties which give it a prominent rank in the treatment of an important class of maladies. Imparting tone and vigor to exhausted and relaxed mucous membranes, it exercises a most powerful influence over the various catarrhal affections; hence in nasal catarrh alone, its value as a therapeutic agent can not well be overrated. Its almost phenomenal success in gonorrhea, vaginitis, and all granular and inflammatory conditions of the male and female genitals, gives it a priceless value to the specialist.

ECTHOL IN SCARLET FEVER, by John M. Turk, M. D., Canton, Ga. I feel called upon to say something plain and practical in regard to the usefulness of ecthol in the above disease. I have used ecthol for one year in an epidemic of scarlet fever, and I must say that it has more than met my most sanguine expectations. It has accomplished more than any agent I have ever used in practice in forty-three years. Ecthol robs scarlet fever of all the distressing sequels, such as nephritis, ear complications, adenitis, membranous angina, etc., if the remedy is given early enough and as often as every two or three hours, in bad cases, un-

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til desquamation is over, then not so often. A great many of my cases were malignant and quite a number ushered in with convulsions. In some of my malignant cases I gave double the prescribed dose. It prevents in a large degree the disintegration of cellular tissue, and will not disappoint any who may use it in scarlet fever.—*The New Orleans Medical and Surgical Journal.*

A NEW INVENTION. Something new, and yet old, is the use of Amber plates in a Static machine. Amber was the first product in which Electricity was found, and this because it was, and is yet the most Electric product known; yet it has never been used in Electric machines until the Sorensen Mfg. Co., in Ravenna, have started to use it this summer as revolving plates for Static Machines. Of course it is a great success, as it cannot break, and gives many times more current than any other product known.

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'Way back in '83 or '4,
Ere science had become a bore,
We had no germs and things to bite us,
Knew nothing of appendicitis,
Nor did remarks about bacilli
Give us a feeling damp and chilly,
And keep us guessing merrily
And puzzled temporarily,
Embarrassed, addled and perplexed
To know what bug would chew us next.
Then we could take a juicy steak
And eat it for our stomach's sake.
Without a fear; and we could drink
From cistern, well or kitchen sink,
Or from the spring beside the road
Down on the farm—our late abode—
And never once in terror squirm

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Or tremble at the wicked germ
Or any other bug or worm.
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Unseemly bouts or revelry
Or any conduct riotous
To trouble or disquiet us
Upon the part of any bug
Within our gizzards buried snug,
Or any germ malevolent,
As classified by scientists benevolent.
Ah, no! But then we drank and ate
And never once regarded fate,
And we were just as happy then
As ever we shall be again—
Yea, happier; for then we sought
For brightness only, as we ought,
And heeded not nor gave a thought
To "all the very latest news"
Or scientific bugaboos,
But took as many drinks and chews
Of meat or milk or rock and rye
As nature seemed to justify.
But now the sharp appliances
Of all the modern sciences,
With their unheard-of rules and laws,
As Hamlet said, "must give us pause."
No man is safe. We must inspect,
Devitalize, tear up, dissect,
Steam, sterilize and oft reject
What else were seeming proper food,
But which by science is tabooed
Since with bacilli it is rife,
And teeming with malignant life—
With countless animalculae
Inimical to you and me.
It makes us weary, sore and sick
And fidgety and splenetic
To witness all this sort of stuff,
Which seems to us, at best, a bluff.
But science has us on the hip;
If we ignore her rules, or skip
Her regulations, she will fall
Upon our necks and curse us all,
For heretics and Johnnie Wises
With all her soul the dame despises.
What though we frown and bid defiance?
That cuts no ice at all with Science,
And with the germ we still must rassel,
For every body is his castle.

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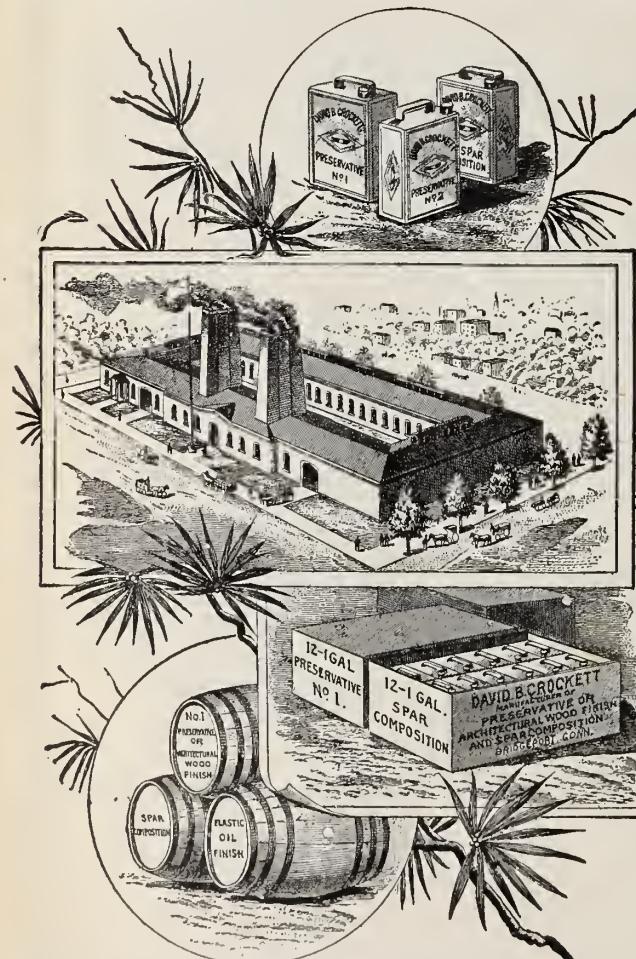
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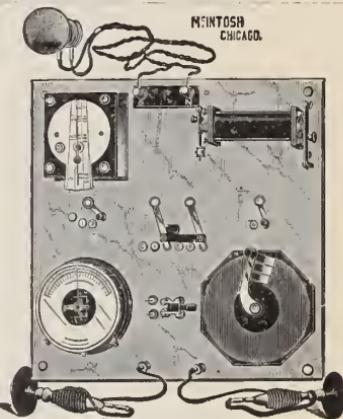
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